IN THE UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

IN RE CASSAVA SCIENCES, INC. SECURITIES LITIGATION	§	Master File No. 1:21-cv-00751-DAE
This Document Relates To: ALL ACTIONS.	§	CLASS ACTION

MOTION TO DISMISS PLAINTIFFS' CONSOLIDATED COMPLAINT FOR VIOLATIONS OF THE FEDERAL SECURITIES LAWS

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I. INTRODUCTION

This securities fraud action was filed on the heels of a "Citizen Petition" alleging that Cassava Sciences, Inc. ("Cassava" or the "Company") committed research misconduct and fraud. The Citizen Petition and its subsequently filed supplements (together, "Citizen Petitions") are strategic reports that were authored and widely publicized for the personal financial benefit of "short sellers."[1] The Citizen Petitions were drafted by two highly conflicted market players with an admitted financial interest in destroying the value of Cassava's stock price and are based on rank speculation, rumors and maliciously false characterizations of Cassava's research.[2] Plaintiffs' Consolidated Complaint ("CC" or "Complaint") uncritically assumes the factual accuracy of these and related accusations to claim that Cassava and its personnel defrauded investors for years by making public statements that concealed "rampant data manipulation and significant anomalies" in Cassava's research. But the Citizen Petition's allegations are just that—allegations. They are unproven and remain stoutly contested by Cassava and uncorroborated by even a single witness. The "facts" underlying Plaintiffs' theory of fraud are not facts at all and cannot be blindly relied on to plead a securities claim. That, alone, compels dismissal of this action. But it also must be dismissed for a host of other reasons.

First, the Complaint violates basic pleading rules. Rather than (1) identifying the specific statements Plaintiffs believe were false, and (2) explaining why those statements are misleading, the Complaint includes dozens of confusing paragraphs quoting Cassava's public statements and summarily claims that these statements must have been false by referencing a list of fifteen or

[1] "Short sellers" are market participants who have made a financial wager that a company's security price will fall.

[2] The authors of the Citizen Petitions made numerous, wild allegations about Cassava and the U.S. Food and Drug Administration ("FDA") subsequently denied the Petitions in their entirety.

more supposed "facts." This tactic is known as "puzzle pleading," and it is entirely inadequate under the stringent pleading standards applicable to this case.

Second, Plaintiffs have failed to plead an actionable misstatement or omission. Their theory of fraud runs contrary to the well-settled principle that there is no duty to "confess" to unadjudicated allegations of wrongdoing. Defendants appropriately disclosed the existence of the Citizen Petitions and related regulatory investigations, but they cannot be liable for failing to issue a public confession to contested and unadjudicated accusations. Additionally, the balance of the "misstatements" alleged in the Complaint were unambiguously not false when made.

Third, Plaintiffs fall far short of pleading the requisite "strong inference" of scienter. The federal securities laws require Plaintiffs to allege specific facts creating a powerful inference that Defendants acted with, at a minimum, deliberate recklessness—a state of mind that strongly suggests actual intent to mislead. The Complaint is devoid of factual allegations indicating any individual Defendant's state of mind. Rather, it relies entirely on the unsubstantiated allegations in the Citizen Petitions to claim that Defendants "must have known" that their positive statements about Cassava's investigational drug, called "simufilam," and the Company's peer-reviewed research were incorrect. Nor have Plaintiffs adequately alleged a motive to commit fraud. There is no dispute that the individual Defendants, all significant stockholders in Cassava, did not sell a single share of Cassava stock throughout the class period. *See, e.g., Rosenzweig v. Azurix Corp.*, 332 F.3d 854, 867 (5th Cir. 2003) (where "there is no allegation that defendants sold their . . . shares," it "call[s] into question the alleged motive to artificially inflate the stock price").

Fourth, Plaintiffs have failed to plead loss causation. The "corrective disclosures" alleged in the Complaint do not, as they must, "reveal the truth" of a previously false or misleading statement. Rather, these disclosures are nothing more than accusations of unadjudicated

wrongdoing (e.g., the Citizen Petitions), which cannot support loss causation as a matter of law. Additionally, most of the alleged corrective disclosures do not reveal any new information; they only provide additional commentary on the allegations set out in the initial Citizen Petition.

For these and other reasons discussed below, the Complaint should be dismissed.

II. FACTUAL BACKGROUND

A. The Parties

Cassava is a clinical stage biopharmaceutical company focused on developing medicines for people with debilitating neurodegenerative conditions. CC ¶¶ 56, 297. Its investigational drug, simufilam, is a novel treatment for people with Alzheimer's disease and is currently in late-stage Phase 3 clinical testing. *Id.* ¶¶ 80, 302 n.8.[3] Cassava is also working to develop SavaDx, an investigational diagnostic to detect Alzheimer's disease from a small sample of blood. *Id.* ¶ 80.

Defendant Remi Barbier is Cassava's President, Chief Executive Officer and Chairman of the board of directors. *Id.* ¶ 59. Defendant Lindsay Burns, Ph.D. serves as Cassava's Senior Vice President of Neuroscience, a leader of Cassava's research team. *Id.* ¶ 61. Defendant Nadav Friedmann, Ph.D., M.D., is Cassava's Chief Medical Officer and a member of its board of directors. *Id.* ¶¶ 64-65. Defendant Eric Schoen is Cassava's Chief Financial Officer. *Id.* ¶ 67.

B. The Development Of Simufilam

Simufilam uniquely targets an altered form of a scaffolding protein known as filamin A ("FLNA"), which is present in people with Alzheimer's disease. *Id.* ¶¶ 83-84. It is believed that simufilam reverts FLNA back to its normal conformation. *Id.* Cassava's thesis is that simufilam's action in the brain may slow the course of Alzheimer's disease. *Id.* ¶ 304. Over the last ten years,

[3] Alzheimer's disease is the sixth leading cause of deaths in adults and afflicts tens of millions of people worldwide. CC ¶ 81. There is no cure for Alzheimer's disease and to date almost all investigational drug treatments have failed. *Id.*

Cassava's development of simufilam has progressed steadily and successfully through preclinical stages and clinical trials. *Id.* ¶¶ 87-89, 95, 297.

In 2008, Dr. Burns and Cassava's academic adviser, Dr. Hoau-Yan Wang, published foundational research on FLNA.[4] This basic research subsequently led to the discovery of simufilam in approximately 2011. *Id.* ¶ 86. Between 2011 and 2017, Cassava engaged in pre-clinical testing of simufilam in animal models, which resulted in findings of "dramatic improvements in brain health." *Id.* ¶ 87. Drs. Burns and Wang's findings were accepted for publication in peer-reviewed scientific journals. *Id.*

In 2017, the FDA accepted Cassava's Investigational New Drug application, which enabled the Company to begin testing simufilam in humans. *Id.* ¶ 88. From 2017 through 2019, Cassava proceeded through Phase 1 and Phase 2a clinical studies successfully, receiving scientific and financial support from the National Institutes of Health ("NIH"). *Id*. In late 2019, Cassava initiated a Phase 2b clinical study, a placebo-controlled, blinded trial. *Id.* ¶ 89. The initial bioanalysis of cerebrospinal fluid ("CSF") for this study was conducted by a lab at Lund University in Sweden in April and May 2020. *Id.* ¶ 94. Lund University generated an anomalous data set in which, among several other issues, biochemical indicators for the presence of Alzheimer's disease moved in opposite directions over a 30-day period in patients who received placebo, including in the same patients. *Id.* ¶¶ 94, 304. This anomalous data therefore suggested (implausibly) that Alzheimer's disease in patients who took placebo was both worsening and improving at the same time in the same patient, which is a significant departure from expected clinical patterns. *Id.* ¶¶ 94, 96, 304. Critically, the initial Phase 2b data did not demonstrate poor results; rather the data

[4] Dr. Wang, an Associate Medical Professor at the City University of New York Medical School ("CUNY"), is a co-inventor of simufilam, a science consultant to Cassava, and a member of its scientific advisory board. CC ¶ 57.

was anomalous and uninterpretable, apparently due to laboratory or human error. *Id.* Accordingly, Cassava timely disclosed the anomalous results from Lund University and notified its shareholders that back-up samples would be analyzed at a different lab. *Id.* ¶¶ 268-70, 304. Cassava later requested that Dr. Wang's lab at CUNY conduct a bioanalysis on the back-up CSF patient samples from the Phase 2b study. *Id.* ¶¶ 95, 304. In order to eliminate bias, at all relevant times, Dr. Wang remained "blinded" to the experiment—i.e., he did not know whether the samples he was analyzing were from patients who took simufilam or who took the placebo, or if the samples were from Day 1 or Day 30. *Id.* ¶ 304.

The final results of the Phase 2b testing were promising. There was no pattern of anomalies in the placebo data and, more importantly, Dr. Wang's bioanalysis demonstrated a significant reduction of indicators of Alzheimer's disease in patients who took simufilam versus placebo, consistent with previous studies of simufilam. *Id.* ¶¶ 97, 304. Additionally, Dr. Wang's bioanalysis of CSF samples was corroborated by a bioanalysis of plasma (blood) samples performed by Quanterix Corporation, an independent external lab. *Id.* ¶ 16, 317. In other words, two separate parties generated matching data from two separate biological indicators (i.e., brain fluid and blood), which is key to the validation of a scientific process. *Id.* ¶¶ 93, 97; *see also id.* ¶¶ 16, 317. On February 2, 2021, these findings were supported by interim results from an open-label extension study.[5] These results showed that the first fifty patients, including patients recruited into the open-label study from the Phase 2b trial, who completed at least six months of simufilam treatment experienced improved cognition scores with no safety issues. *Id.* ¶ 289.

[5] An open-label study is one in which both the researchers and the study-participants know which treatment the patient is receiving.

In February 2021, Cassava's successful completion of its Phase 1 and 2 clinical studies resulted in the FDA green-lighting Cassava to conduct randomized, placebo-controlled Phase 3 trials of simufilam in people with Alzheimer's disease. *Id.* ¶ 297. These Phase 3 trials are currently ongoing.

C. The Short-Seller Attacks

Following the announcement of the Phase 3 trials, Cassava's stock price rose to a high of $146 per share on July 29, 2021, eclipsing $5 billion in market value. *Id.* ¶ 6. Less than a month later, two highly conflicted individuals anonymously filed a Citizen Petition with the FDA accusing Drs. Burns and Wang of research misconduct and data manipulation. *Id.* ¶ 105.

The Citizen Petition, which was filed on August 18, 2021[6] by an attorney[7] acting on behalf of his anonymous clients, scientist David Bredt and his long-time friend Geoffrey Pitt, requested that the FDA "halt" any future Phase 3 trials of simufilam over allegations that "a series of anomalies" in Cassava's published research "strongly suggests systematic data manipulation." *Id.* ¶¶ 105, 117; Ex. 1 (Citizen Petition) at 1-2. Bredt and Pitt did not disclose in the Citizen Petition, as they were required to do under FDA regulations,[8] their massive conflicts of interest, including that they both held "short" positions in Cassava's stock and thus would reap huge profits if Cassava's stock price declined. *See id.*[9] Instead, they waited eight days to disclose those

[6] The Citizen Petition became public on August 24, 2021. CC ¶ 12.

[7] This attorney, Jordan A. Thomas, was a partner at Labaton Sucharow at the time, a law firm that specializes in filing securities lawsuits after stock price drops. *Id.* ¶ 105; *see also generally* Labaton Sucharow, https://www.labaton.com/about-us (last visited Oct. 19, 2022).

[8] *See* 21 C.F.R. 10.30 (requiring petitioner to certify that the "petition . . . includes representative data and information known to the petitioner which are unfavorable to the petition.").

[9] Short selling occurs when a market participant borrows and sells a stock on the market and repurchases the same stock later, hoping to profit from a decline in the price. A short-seller attack, known as a "short and distort" scheme, refers to an unethical and illegal practice that involves investors shorting a stock and then spreading rumors in an attempt to drive down its price.

conflicting interests in a footnote to a press release, and then only after Cassava's stock price dropped from $114 to $71. Exs. 2 (Press Release) & 3 (Stock Price Chart).[10] Between August and December 2021, Bredt and Pitt's attorney filed four supplements to the Citizen Petition that restated their allegations of data manipulation and misconduct. CC ¶¶ 18-19, 31-32, 328, 330, 380-85. Importantly, none of the allegations in the Citizen Petitions are based on evidence, first-hand knowledge or witnesses; rather, the allegations are baseless, speculative, confusing and often contradictory.[11]

After the initial Citizen Petition was made public, a wave of other financially interested individuals, including other short sellers and a self-proclaimed expert in research misconduct, Elisabeth Bik, began publicly accusing Cassava of having engaged in potential data manipulation. *See id.* ¶¶ 24, 132, 135, 137-38, 375, 490. Like the authors of the Citizen Petitions, these additional public critics had no first-hand knowledge regarding the research at issue and thus their criticism was, at best, speculative, purported opinion. *See*, *e.g.*, *id.* ¶¶ 24, 124, 135, 137, 321.

D. Government Inquiries

After publication of the initial Citizen Petition, the U.S. Securities and Exchange Commission ("SEC") and U.S. Department of Justice ("DOJ") asked Cassava "to provide them corporate information and documents." *Id.* ¶¶ 5, 26. Cassava has been fully cooperating with all regulatory inquiries since August 2021. To date, no government agency has pursued an enforcement action against Cassava or made any determination that the Company or its personnel

[10] Bredt and Pitt did not disclose their short-seller status until after market closing on August 26, 2021. *See* Ex. 2.

[11] The Citizen Petition focuses broadly on two key allegations. First, it claims that the Western blot analyses published in journal articles used to support simufilam's connection to Alzheimer's disease are "strongly suggestive of systematic data manipulation and misrepresentation." CC ¶ 107. Second, it claims that Cassava's presentation of Phase 2b clinical biomarker data shows "signs of data anomalies or manipulation." *Id.* Cassava has consistently denied these allegations—as of today, these allegations are unproven and contested. *Id.* ¶¶ 26, 369, 436.

have engaged in any wrongdoing. *Id.* ¶ 5. On February 10, 2022, the FDA denied the Citizen Petitions, stating that "[r]equests for the [FDA] to initiate enforcement action and related regulatory action are expressly excluded from the scope of FDA's citizen petition procedures." Ex. 4 (FDA Response Letter to Citizen Petition) at 3; *see also* CC ¶ 411.

E. Media Reporting Concerning The Citizen Petitions

On November 17, 2021, the *Wall Street Journal* published a story concerning the allegations in the Citizen Petitions (which, for the first time, revealed the identities of Bredt and Pitt) and interviewed several other scientists about the accusations against Cassava. *See* CC ¶¶ 22, 369-70. Later, on April 18, 2022, the *New York Times* published a similar article, interviewing many of the same experts as the *Wall Street Journal*, none of whom had any personal knowledge concerning Cassava's research or data. *Id.* ¶¶ 40, 427. These articles included no new facts, but simply rehashed the allegations from the Citizen Petitions with new commentary. *Id.* ¶¶ 40, 137, 245, 428-30. On July 27, 2022, over eight months after Cassava disclosed that government agencies had requested information as part of ongoing investigations, *Reuters* published an article further detailing that the DOJ had "opened a criminal investigation into Cassava." *Id.* ¶¶ 5, 26, 44.

F. Journal Findings And Ongoing CUNY Investigation

Given the allegations in the Citizen Petitions, and in response to further accusations by Elisabeth Bik, several academic journals performed a reassessment of certain peer-reviewed articles previously published by Dr. Wang and/or Dr. Burns. *See, e.g.*, *id.* ¶¶ 22, 37-39, 387-88. While Bik and the petitioners only reviewed the "as published" Western blot images, Drs. Burns and/or Wang provided the journals with the underlying images. *Id.* ¶ 387. No journal has concluded that Dr. Burns or Dr. Wang manipulated data or engaged in any misconduct. *Id.* One online journal (PLOS One) retracted articles because of concerns raised about the published data, *id.* ¶¶ 37, 39, 42, however, none of the papers retracted by PLOS One concerned simufilam or

Alzheimer's disease. The majority of the journal inquiries have resulted in exonerations for Drs. Wang and/or Burns, *id.* ¶¶ 22, 38, 453, 387-88. For example:

- ***Neuroscience***: After reviewing a 2005 article authored by Drs. Burns and Wang, the journal released an Editorial Note stating: "After careful examination of these original material, Neuroscience found ***no evidence of manipulation*** of the Western blot data or other figures of this publication." *Id.* ¶¶ 387-88 (emphasis added). Then, on March 29, 2022, *Neuroscience* published a Corrigendum to a 2021 *Neuroscience* article authored by Dr. Wang, stating that "two errors pertaining to the visual display of representative western blot images . . . ***have no material impact*** on the findings of the research (the data analyses are correct)." *Id.* ¶ 420 (emphasis added).

- ***Journal of Neuroscience***: After review of a 2012 article authored by Drs. Wang and Burns, the journal determined that "***[n]o evidence of data manipulation was found for Western blot data***." *Id.* ¶ 22 (emphasis added).

- ***Molecular Neurodegeneration***: In connection with a 2021 paper authored by Dr. Wang and others (which had nothing to do with Cassava or simufilam), the journal disclosed that "[t]he authors have retracted this article because concerns have been raised regarding the data," Ex. 5; *see also* CC ¶ 37. There were no findings of image manipulation or research misconduct in connection with this article. *See id.*

- ***Neurobiology of Aging***: In connection with a 2017 paper authored in part by Drs. Burns and Wang, the journal disclosed that its "editors ***did not find compelling evidence of data manipulation intended to misrepresent the results***" but noted that "errors in the published report were identified" and the "authors have requested a corrigendum to correct these issues." Ex. 6 (*Neurobiology of Aging* Expression of Concern); CC ¶ 38 (emphasis added).

- ***PLOS One***: On March 30, 2022, the journal retracted five papers authored in part by Dr. Wang (two of which were co-authored by Dr. Burns), stating that: "The data and comments provided to PLOS did not resolve the concerns about the integrity and reliability of the reported data. In light of these issues, the PLOS ONE Editors retract this article." CC ¶ 39. There were no findings of image manipulation or research misconduct in connection with this article (which had nothing to do with simufilam). *See id.*

- ***Alzheimer's Research & Therapy***: On June 1, 2022, the journal retracted a 2017 article authored by Dr. Wang and others (which did not concern Cassava or simufilam), stating that "concerns have been raised regarding [] western blot images . . . . The authors have provided the raw data, which have been assessed by independent experts and deemed insufficient to address the concerns." *Id.* ¶¶ 42, 433. There were no findings of image manipulation or research misconduct in connection with this article. *See id.*

- ***Journal of Prevention of Alzheimer's Disease***: After an inquiry concerning Drs. Burns and Wang's 2020 paper regarding the simufilam Phase 2a studies, the journal disclosed

that: "We do not find convincing evidence of manipulation of data or intent to mislead, and therefore take no action regarding the published paper." *Id.* ¶ 453 n.16.[12]

Additionally, CUNY, Dr. Wang's employer, initiated an investigation in 2021, which remains ongoing and has not resulted in any finding of fault with respect to Dr. Wang's research. *Id.* ¶ 28.

G. The Complaint

Plaintiff Pierre Brazeau initiated this action on August 27, 2021, three days after the initial Citizen Petition was made public. Compl., ECF 1. Three nearly identical actions were filed over the next several weeks, and the Court subsequently consolidated related cases. Order, ECF 58. Plaintiffs filed the current operative Complaint on August 18, 2022, ECF 68, relying almost exclusively on the unadjudicated accusations in the Citizen Petitions and the speculative, purported opinions of Bik and Mike Rossner, a biomedical image analyst retained by Plaintiffs, to allege that Defendants committed securities fraud by failing to disclose that Cassava's data and research related to simufilam had been manipulated, *see, e.g.*, CC ¶¶ 12-13, 24, 139-42, 143-247, 287.

III. ARGUMENT

A. The Rigorous Pleading Standards Governing This Securities Fraud Action

To survive a Rule 12(b)(6) motion to dismiss, "a complaint must contain sufficient factual matter, accepted as true, to 'state a claim to relief that is plausible on its face.'" *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009). While the Court must accept as true well-pleaded factual allegations, it need not accept as true conclusory allegations, unreasonable inferences or unwarranted deductions of fact, or allegations that contradict documents referred to in the complaint or matters

[12] The additional journals referenced in the Complaint—*Alzheimer's & Dementia*, *Neuroimmunology and Neuroinflammation*, *Biological Psychiatry*, and the *Journal of Biological Chemistry*—have not issued ***any*** public statements regarding the articles published by Dr. Wang or Dr. Burns, and these papers remain published, peer-reviewed research. *See* CC ¶¶ 79, 87, 207, 289.

subject to judicial notice. *See Heinze v. Tesco Corp.*, 971 F.3d 475, 479 (5th Cir. 2020).

Rule 9(b) and the Private Securities Litigation Reform Act ("PSLRA"), 15 U.S. Code § 78u, *et seq.*, impose additional, exacting pleading requirements in securities fraud cases like this one.[13] Rule 9(b) requires particularized allegations of the circumstances constituting fraud, including "the statements (or omissions) considered to be fraudulent, the speaker, when and why the statements were made, and an explanation why they are fraudulent." *Plotkin v. IP Axess Inc.*, 407 F.3d 690, 696 (5th Cir. 2005). The PSLRA similarly requires a complaint to specify each statement alleged to have been misleading and the reasons why it was misleading when made, and to "state with particularity all facts on which that belief is formed." 15 U.S.C. § 78u-4(b)(1).

The PSLRA further requires a complaint to "state with particularity facts giving rise to a strong inference that [each] defendant acted with" scienter. 15 U.S.C. § 78u-4(b)(2). Because the Supreme Court has defined "scienter" in the context of Section 10(b) and Rule 10b-5 as a "mental state embracing intent to deceive, manipulate, or defraud," *Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 193 n.12 (1976), the complaint must plead specific facts giving rise to a strong inference that the defendant made a false or misleading statement with, at a minimum, "severe recklessness," *Ind. Elec. Workers' Pension Tr. Fund IBEW v. Shaw Grp., Inc.*, 537 F.3d 527, 533 (5th Cir. 2008) (citation omitted). This standard for recklessness is actually much closer to one of intent, and thus the complaint must plead specific facts indicating a degree of culpability that strongly suggests actual intent to mislead. *See Flaherty & Crumrine Preferred Income Fund, Inc. v. TXU Corp.*, 565 F.3d 200, 207 (5th Cir. 2009) ("Severe recklessness is limited to those highly unreasonable omissions or misrepresentations that involve . . . an extreme departure from the standards of

[13] To state a securities fraud under Section 10(b) of the Securities Exchange Act of 1934 and SEC Rule 10b-5, Plaintiffs must plead with particularity: (1) a material misrepresentation or omission; (2) made by a defendant acting with scienter; (3) reliance; (4) damages; and (5) loss causation. *See Stoneridge Inv. Partners, LLC v. Scientific-Atlanta, Inc.*, 552 U.S. 148, 157 (2008).

ordinary care." (citation omitted)); *Plotkin*, 407 F.3d at 697 ("[A] . . . plaintiff must prove that the defendant either consciously misbehaved . . . or was so severely reckless that it demonstrates that the defendant must have been aware of the danger of misleading the investing public.")

B. The Complaint Is A Classic Example Of Improper Puzzle Pleading

As an initial matter, the Complaint should be dismissed because it is a paradigm example of impermissible "puzzle pleading." A puzzle pleading is a complaint that forces Defendants and/or the Court to sort out the alleged misstatements and match them with the corresponding, allegedly omitted "true" facts to solve the puzzle of interpreting Plaintiffs' claims.

The PSLRA, however, requires Plaintiffs to specify with particularity "each statement alleged to have been misleading" ***and*** "the reason or reasons why [***each***] statement is misleading," 15 U.S.C. § 78u-4(b)(1). Plaintiffs may not, as they do in their Complaint, "recite[] a list of allegedly false and misleading statements extracted from press releases, analysts' reports, and public filings and then follow the list" with "a separately located second list" of reasons "all the cited statements were false." *In re Alamosa Holdings, Inc. Sec. Litig.*, 382 F. Supp. 2d 832, 857 (N.D. Tex. 2005) (citing *Williams v. WMX Techs., Inc.*, 112 F.3d 175, 180 (5th Cir. 1997) (rejecting pleading making "[n]o attempt . . . to isolate statements and particularize their falsity")).

Here, the Complaint alleges a list of almost 50 alleged misstatements followed by a conclusory laundry list of 15 purported reasons why these statements were purportedly misleading, without identifying ***which*** alleged "true fact" from the laundry list renders a particular statement false or misleading when made. *Compare, e.g.*, CC ¶¶ 268-86, 289, 291-94, 297-304, 306-07, 309-10, 312-14 (identifying 47 alleged misstatements), *with id.* ¶ 287 (identifying 15 separate alleged reasons for why the 47 statements were false and misleading). Plaintiffs make no effort to tie each of the 47 alleged misstatements to the specific reason or reasons why each statement is false or misleading, leaving the reader to decipher which of the 15 purported reasons apply to each

of the 47 alleged misstatements. Indeed, given the puzzle-pled nature of the Complaint, many of the alleged 15 reasons that Plaintiffs offer as to why certain statements were allegedly false or misleading bear no connection at all to the substance of the statements themselves.[14]

In short, Plaintiffs have "place[d] 'the burden on the reader to sort out the statements and match them with the corresponding adverse facts to solve the 'puzzle' of interpreting [their] claims,'" *Primo v. Pacific Biosciences of California, Inc.*, 940 F. Supp. 2d 1105, 1111-12 (N.D. Cal. 2013), and the Complaint should be dismissed on that basis alone, *see, e.g.*, *Alamosa*, 382 F. Supp. 2d at 858 ("[A]ssembling puzzles is not the duty of the Court . . . . The Court will not waste its resources attempting to construe which statements are actionable and why").

C. Plaintiffs Have Not Alleged An Actionable Misstatement Or Omission

Puzzle pleading aside, the Complaint should also be dismissed because it fails to adequately plead an actionable misstatement or omission.

1. There Is No Duty To Disclose Uncharged, Unadjudicated Wrongdoing, And The PSLRA Prohibits Plaintiffs From Relying On Allegations About *Other* Allegations And Speculative "Expert" Opinions To Plead Securities Fraud

The overwhelming majority of Plaintiffs' fraud case is built around the legally invalid premise that Defendants had an obligation to publicly accuse themselves of engaging in misconduct that has never been substantiated—much less formally charged. Indeed, Plaintiffs begin their narrative with the Citizen Petitions, a collection of smears and accusations published by two financially interested short sellers, and blithely assert that Defendants' statements during the Class Period ***must have been*** false because they failed to "admit" those accusations.

[14] For example, one of the reasons that Plaintiffs cite in support of their allegation that a 2020 Cassava statement regarding samples having been sent to "outside labs" for bioanalysis was false is that an entirely unrelated 2008 article by Drs. Burns and Wang supposedly contained manipulated data. *Compare* CC ¶ 271, *with id.* ¶ 287(a)(i); *compare also id.* ¶¶ 268-86, 289, 291-94, 297-304, 306-07, 309-10, 312-14, *with id.* ¶¶ 287-87(h).

It is well-settled, however, that there is no duty to disclose or confess to "uncharged, unadjudicated wrongdoing." *Parker v. Hyperdynamics Corp.*, 126 F. Supp. 3d 830, 843 (S.D. Tex. 2015) (citation omitted). Moreover, "[a]n investigation is not a violation," *In re Key Energy Services, Inc. Sec. Litig.*, 166 F. Supp. 3d 822, 863 (S.D. Tex. 2016), and "[t]he mere existence of an [agency] investigation does not suggest that any of the allegedly false statements were actually false," *Parker*, 126 F. Supp. 3d at 843. Simply put, Defendants are "under no duty to announce publicly . . . uncharged criminal behavior, or to accuse [themselves] of antisocial or illegal policies." *Id.* (citation omitted).

Statements are rendered "misleading" by the omission of alleged wrongdoing only when the wrongdoing "had, ***in fact***," occurred. *In re KBR, Inc. Sec. Litig.*, 2018 WL 4208681, at *7 (S.D. Tex. Aug. 31, 2018). Plaintiffs must "establish that [the alleged] violations occurred" using "authoritative evidence in the record," *Parker*, 126 F. Supp. 3d at 843, and—as the Fifth Circuit has made clear—***purported expert*** "***opinions cannot substitute for facts under the PSLRA***," *Fin. Acquisition Partners LP v. Blackwell*, 440 F.3d 278, 285-86 (5th Cir. 2006) (emphasis added).

This rule largely forecloses Plaintiffs' fraud claim as a matter of law because most of the challenged statements are claimed to be false and misleading by virtue of Defendants' alleged failure to disclose—i.e., their failure to confess or admit to—the uncharged, unadjudicated, and unsubstantiated accusations listed in the Complaint. ***None*** of these accusations have been—or are even alleged to have been—adopted or advanced, much less substantiated, by any government agency or authority, court, or any person or entity with personal knowledge of the underlying facts (i.e., the original experiments, data, or results). And as discussed above, none of the allegations in the Citizen Petitions, which form the basis of this lawsuit, are based on first-hand knowledge or observations or facts; rather, the accusations are speculative and often contradictory. Likewise,

the other purported "experts" who, following the Citizen Petitions, have publicly accused Cassava of having engaged in potential data manipulation, have no first-hand knowledge regarding the research at issue and thus their criticism is, at best, speculative, purported opinion.

In short, the Complaint should be dismissed because it is supported by allegations about other allegations by self-interested parties with no personal knowledge whatsoever of the underlying facts or data. This is the antithesis of the PSLRA's requirement that the Complaint be supported by particularized ***allegations of fact***. *See, e.g.*, *Sgarlata v. PayPal Holdings, Inc.*, 409 F. Supp. 3d 846, 861 (N.D. Cal. 2019) (dismissing complaint because its "reliance on [an] expert was 'essentially an allegation made on information and belief . . . i.e., no personal knowledge'"), *aff'd*, 831 F. App'x 366 (9th Cir. 2020); *Applestein v. Medivation, Inc.*, 561 F. App'x 598, 600 (9th Cir. 2014) ("Dr. Schneider's opinion is insufficient to establish falsity adequately because he has no personal knowledge of the facts on which he bases his conclusion."); *In re Molycorp, Inc. Sec. Litig.*, 2015 WL 1540523, at *16 (D. Colo. Mar. 31, 2015) (allegations based on expert did not support plaintiffs' claims where "Plaintiffs do not allege that Molycorp employed the industry expert" or that he otherwise had personal knowledge).

a. <u>Allegedly Manipulated Data in Journal Submissions</u>

Plaintiffs allege that Cassava's failure to disclose the existence of allegedly manipulated data or images in four papers published in 2008, 2012, 2017, and 2020 renders a litany[15] of statements false. CC ¶¶ 287(a)(i)-(iv). But each of these allegations of data manipulation arises from ***the "findings" of the Citizen Petitions*** and the supposed experts' review of the Citizen Petitions and their sources:

- Regarding the 2008 paper in *PLOS One*, Plaintiffs allege that "[***t***]***he Citizen Petition***

[15] As discussed above, Plaintiffs fail to specify which statements are rendered misleading by which omissions.

found that Drs. Burns and Wang presented 'a series of overexposed and selectively cropped gels that ***appear to show*** spliced experiments,'" *Id.* ¶ 149 (emphases added).

- Regarding the 2012 paper in *The Journal of Neuroscience*, Plaintiffs allege that "***the Citizen Petition found*** that '[this] ***foundational*** paper from Drs. Wang and Burns . . . ***appears to contain***" manipulated data, *id.* ¶ 155 (first and third emphases added), that Defendants falsely claimed to have submitted "raw data" and "original, uncropped Western blots" to the journal, *id.* ¶ 343, and that Cassava's related press release was misleading because Cassava did not provide "raw data" to the journal, *id.* ¶¶ 339-42.

- Regarding the 2017 paper in *Neurobiology of Aging*, Plaintiffs allege that "[t]he ***Citizen Petition identified***" and "***revealed***" various anomalies in the number of and spacing in bands in certain blots, *id.* ¶¶ 179-81 (emphases added).

- Regarding the 2020 paper in *Journal of Prevention of Alzheimer's Disease*, which reported Cassava's Phase 2a clinical trial results, Plaintiffs allege that "[t]he ***Citizen Petition questioned*** the cerebrospinal fluid (or 'CSF') analysis . . . in Cassava's Phase 2a study," *id.* ¶ 241 (emphasis added).

- Regarding the 2012 and 2017 papers above, as well as another 2009 paper in *The Journal of Neuroscience*, Plaintiffs allege that "[t]he Citizen Petition concluded [that] . . . there are anomalies in the presentation of the data from this [post-mortem] human [brain] tissue, which again strongly suggest manipulation," *id.* ¶¶ 249-51.

- Regarding the Citizen Petition generally, Plaintiffs allege that Cassava "recklessly" "denied the accusations in the Citizen Petition," *id.* ¶¶ 3, 331-35.

Plaintiffs do not and cannot allege that any government agency or other authority has ever ***charged or accused***, much less determined, that Cassava manipulated data or otherwise engaged in intentional wrongdoing. In fact, Plaintiffs concede that "the FDA denied the [Citizen Petition]" and has taken no action regarding Cassava. *Id.* ¶ 413. Likewise, Plaintiffs do not and cannot allege that any scientific publication has accused, much less determined, that Cassava manipulated data or images, submitted doctored data or images as raw data or images, or otherwise engaged in intentional wrongdoing. Instead, Plaintiffs concede that multiple publishers of papers containing allegedly manipulated data or images rejected the findings of the Citizen Petitions and concluded

that there was "***no evidence of manipulation***" ***or*** "***intent to mislead***."[16] *Id.* ¶ 387 & n.16 (emphases added). Without "authoritative evidence" that the alleged uncharged and unadjudicated wrongdoing "had, in fact," occurred, there is no duty to disclose or admit to accusations of wrongdoing. *Parker*, 126 F. Supp. 3d at 843; *KBR*, 2018 WL 4208681, at *7.[17]

b. Alleged "Pattern" Of Data Manipulation

Plaintiffs also allege that Defendants failed to disclose Drs. Burns and Wang's alleged ***pattern*** of data manipulation. To support their allegation concerning Drs. Burns and Wang's supposed "longstanding 15-year pattern of extensive data duplication and manipulation," CC ¶ 287(b), Plaintiffs cite alleged data manipulation in the four papers discussed above, as well as four additional papers:

- A 2005 paper published in *Neuroscience*, which included a blot that "[t]he ***Citizen Petition revealed***" to "***appear*** to have 'spliced together' gels from different experiments," *id.* ¶¶ 200, 287(b)(i) (emphases added), and for which Defendants falsely claimed to have submitted "raw data" and "original, uncropped Western blots" to the journal, *id.* ¶ 389;

- A 2006 paper published in the *Journal of Neurobiology*, which included "cut marks indicative of splicing" according to an ***unidentified*** "***commenter on*** [***a website***]," *id.* ¶¶ 287(b)(ii), 487;

- A 2008 paper published in *The Journal of Pain*, which included "'significant anomalies' in the Western blots" according to an ***unidentified*** "***commenter on*** [***a website***]," *id.* ¶ 487 (emphasis added); *see also id.* ¶¶ 287(b)(iv), 488; and

- A 2009 paper published in *PLOS One*, "which was retracted by the publisher"

[16] The Complaint inaccurately claims that the *PLOS One* retractions are evidence of Cassava's wrongdoing—to the contrary, the journal did not find evidence of data manipulation in any of the papers. *See* CC ¶¶ 39, 287. Instead, the journal adopted a cautionary approach to retract the articles on the sole basis that "[t]he data and comments provided to PLOS did not resolve the concerns about the integrity and reliability of the reported data." *Id.* ¶ 39.

[17] Plaintiffs also allege that statements are false because "there was a reasonable likelihood that Cassava would face regulatory scrutiny in connection with the development of simufilam . . . ." *Id.* ¶ 287(g). But this is simple repackaging of the allegations of uncharged, unadjudicated wrongdoing. As noted above, an agency "investigation is not a violation," *Key Energy*, 166 F. Supp. 3d at 863, and "[t]he mere existence of an investigation does not suggest that any of the allegedly false statements were actually false," *Parker*, 126 F. Supp. 3d at 843.

> because it did "***not resolve*** the concerns about the integrity and reliability of the reported data" raised by the Citizen Petition and/or Bik and Rossner, *id.* ¶¶ 287(b)(v), 423 (emphasis added).

Again, Plaintiffs impermissibly rely on ***other allegations*** to substantiate their own. Plaintiffs present no "authoritative evidence" that any of the alleged data or image manipulation "in fact" occurred or that there was any charge, much less adjudication or determination, finding manipulation. *See Parker*, 126 F. Supp. 3d at 843; *KBR*, 2018 WL 4208681, at *7.[18]

c. Allegedly Manipulated Phase 2 Results

Plaintiffs allege that Cassava's Phase 2 testing results contained manipulated images and data regarding biomarkers. CC ¶¶ 241, 312-15. Specifically, Plaintiffs allege that "[t]he Citizen Petition questioned the cerebrospinal fluid (or 'CSF') analysis performed on 13 patients in Cassava's Phase 2a study," which results were subsequently published in *The Journal of Prevention of Alzheimer's Disease* ("JPAD") in 2020, CC ¶ 241,[19] and that Cassava's poster at the Alzheimer's Association International Conference ("AAIC") included inaccurate or incomplete p-tau data "as detailed in the Citizen Petition," which concerns Bik "agree[d] with," *id.* ¶¶ 218, 312-15, 319, 329. Plaintiffs allege further that the Citizen Petition authors, working in concert with

[18] Incredibly, with respect to the 2005 paper, Plaintiffs rely on the unsubstantiated allegations of the Citizen Petitions, as well as Bik and Rossner, that ***the publisher rejected*** after finding no issue with the originality of submitted data and images and finding "'no evidence' of manipulation in [the] 2005 paper." CC ¶ 36. Even more egregiously, Plaintiffs' allegations regarding the 2006 and 2008 papers include precisely zero facts regarding the identity or qualifications of the accusers, blithely attributing the allegations to unknown internauts. *Id.* ¶¶ 487-88. Finally, Plaintiffs expressly concede that the publisher did "***not resolve***" the issue, plead no facts regarding any manipulation, and necessarily omit any allegation of a determination that data or images were, in fact, manipulated. *See id.* ¶ 423. This constitutes quintessential uncharged, unadjudicated wrongdoing. *See, e.g.*, *Parker*, 126 F. Supp. 3d at 843 ("The mere existence of an . . . investigation does not suggest that any of the allegedly false statements were actually false") (citation omitted).

[19] Plaintiffs relegate to a footnote the fact that the publisher here, *JPAD*, investigated the allegations of the Citizen Petitions and Bik and Rossner, concluded there was ***no "convincing evidence of manipulation of data or intent to mislead,"*** and ***rejected any "action regarding the published paper.***" *Id.* ¶ 453, n.16 (emphasis added). The FDA likewise declined to take any action against Cassava.

Bik, "expressed major concerns with the integrity of these phase 2a data," raised "manipulation concern[s]," and found what "appear[ed]" to be "wildly anomalous baseline measures" that "suggest lab errors or manipulation." *Id.* ¶¶ 242-45; *see also id.* ¶¶ 218, 222-23, 225, 233-35, 315, 319 and 329. Again, Plaintiffs cannot allege—much less support with "authoritative evidence"—any actual charge by any government or institutional body, let alone finding, that such manipulation occurred. They just assume it occurred based on uncharged, unadjudicated, and unsubstantiated accusations by self-interested parties and fault Defendants for not "confessing" to this alleged wrongdoing. As discussed, such a theory of fraud fails as a matter of law.

2. Several Of The Challenged Statements Are Undisputedly True And Not In Any Way False Or Misleading

Several of the statements that Plaintiffs challenge are also indisputably true, and thus are not actionable. For example, Plaintiffs allege that the Phase 2b trial was not, as Defendants claimed in a September 14, 2020 press release, "conducted by an 'outside' lab, but rather by Dr. Wang." CC ¶ 287(f). But according to Plaintiffs' own pleading, Dr. Wang is "an Associate Medical Professor at CUNY Medical School," *id.* ¶ 57, who ***maintained a*** "***lab at CUNY***," *id.* ¶¶ 108, 135, 137, 326, 456 (emphasis added). CUNY is a different institution than Cassava, and its labs are not Cassava labs. Thus, the statement that Plaintiffs allege to be false is entirely true.

Plaintiffs also allege that Cassava "claim[ed] that the Phase 2b clinical data the Company had recently presented at a July 26, 2021 [AAIC] had been generated by Quanterix Corp." *Id.* ¶¶ 14, 316-19. Plaintiffs point to Quanterix's statement that it "'[had] not interpret[ed] the test results or prepare[d] the data' Cassava presented" as evidence that Cassava's initial statement was inaccurate. *Id.* ¶¶ 14-16, 316-17, 319(a). Not so. Cassava's statement is perfectly consistent with Quanterix's statement. Cassava's release in fact stated that "***plasma p-tau data*** from Alzheimer's patients was generated by Quanterix," while Quanterix ***confirmed*** that it had been "engaged . . .

to perform sample testing [of plasma p-tau] on blinded samples." *Id.* ¶¶ 317, 323. The clarification from Quanterix that it had "not ***interpret*[*ed*]** the test results or prepare[d] ***the data charts***" does not remotely contradict Cassava's prior statement. *Id.* ¶ 323.

Also true: Cassava's statement that it was "supported by scientific advisors that share our commitment to advancing new treatments for Alzheimer's disease" and "advised" by "'[l]eading experts in the field.'" *Id.* ¶ 480. Plaintiffs allege that this statement is false because one of the Company's scientific advisors wrote on Twitter that she had "not worked with Cassava for years" and another had allegedly attended "only one formal advisory board meeting." *Id.* ¶¶ 481-82. Even accepting this allegation as true, it does not remotely render Cassava's statements regarding its scientific advisory board false or misleading.

Plaintiffs' allegation that Cassava's statement that "government agencies have asked us to provide them with corporate information and documents" is false, *see id.* ¶¶ 26, 363, likewise fails. Indeed, Plaintiffs do not contest the accuracy of Cassava's statement, which—when read in its entirety—disclosed that Cassava had "been cooperating and will continue to cooperate with government authorities," advised that "no government agency has informed [Cassava] that any wrongdoing has occurred," and cautioned that Cassava "cannot predict the outcome or impact of any [of] these ongoing matters, including whether a government agency may pursue an enforcement action against [Cassava] or others." Ex. 7 (Cassava 10-Q Report) at 34. Plaintiffs instead assert—without alleging facts to support Cassava's knowledge—that Cassava was required to guess at whether the investigations were "***into Cassava***," including "a criminal investigation." CC ¶ 365. But where the public statements "suggest that regulatory investigations [are] live and ongoing . . . . [without] provid[ing] details . . . . these statements are not actionable." *In re Inv. Tech. Grp., Inc. Sec. Litig.*, 251 F. Supp. 3d 596, 617 (S.D.N.Y. 2017) (internal citations omitted);

see also In re Lions Gate Ent. Corp. Sec. Litig., 165 F. Supp. 3d 1, 16 (S.D.N.Y. 2016) ("The [Complaint] at most pleads that the defendants disclosed an investigation was ongoing, but refused to provide details . . . . defendants' statements were not false or misleading."); *KBR*, 2018 WL 4208681, at *8 (same). And as discussed above, there is also "'no duty to announce publicly . . . uncharged criminal behavior,'" *Parker*, 126 F. Supp. 3d at 843 (internal quotation omitted). This statement is thus not actionable.

Finally, Plaintiffs allege that Mr. Barbier's statements that "the FDA denied the [Citizen Petition] because they did not find any evidence of fraud" and that *Neuroscience* "ha[s] cleared us of wrongdoing," are also false. CC ¶¶ 386-88, 412-13. But these statements are true: The FDA did ***not*** find that there was evidence of fraud, *see* Ex. 8, and as the Complaint concedes, "*Neuroscience* found no evidence of manipulation of the Western blot data or other figures of this publication," CC ¶ 387.[20] Moreover, Plaintiffs blatantly misrepresent Mr. Barbier's words by attributing a quote from "an analyst at Univest Securities" ***who inaccurately paraphrased Mr. Barbier***. *Compare id.* ¶ 413, *with* Ex. 8 (April 27, 2022 B. Riley Securities' 2022 Virtual Neurology & Ophthalmology Conference Transcript) at 4 (Barbier: "[W]hat the FDA says is there is no evidence. FDA works on evidence. By definition FDA is an evidence based organization. . . . So essentially they wrote a response saying, in the absence of evidence this is not an appropriate topic for the FDA to address. So the FDA, the citizens petition was denied."). The transcript of the call directly contradicts the allegation in the Complaint: Mr. Barbier did ***not*** state that "the FDA denied the petition because they did not find any evidence of fraud." CC ¶ 413. Therefore, these statements are plainly inactionable.

[20] Nor is the Company's statement misleading for failing to quote the self-evident and immaterial note that "[i]f any subsequent information arises, . . . [it] will be considered when available." CC ¶ 388.

D. Plaintiffs Have Failed To Allege Particularized Facts Demonstrating A Strong Inference Of Scienter

As noted above, under the PSLRA's "exacting pleading requirements," Plaintiffs must "state with particularity" the facts giving rise to a ***strong inference*** that a defendant acted with scienter, i.e., an intent "to deceive, manipulate, or defraud" shareholders. *Tellabs, Inc. v. Makor Issues & Rights, Ltd.*, 551 U.S. 308, 313 (2007) (citation omitted). That requires a plaintiff to "plead specific facts constituting strong circumstantial evidence of conscious misbehavior or [severe] recklessness." *Abrams v. Baker Hughes Inc.*, 292 F.3d 424, 429-30 (5th Cir. 2002). Importantly, Plaintiffs must allege scienter "for 'each act or omission alleged' to be false or misleading." *Local 731 I.B. of T. Excavators & Pavers Pension Tr. Fund v. Diodes, Inc.*, 810 F.3d 951, 956 (5th Cir. 2016) (citation omitted).

A "strong inference" of scienter is necessarily comparative: A complaint will survive "***only*** if a reasonable person would deem the inference of scienter cogent and at least as compelling as any opposing inference one could draw from the facts alleged." *Tellabs*, 551 U.S. at 324 (emphasis added). To find that a strong inference exists, the court must consider "plausible nonculpable explanations for the defendant's conduct," *Parker*, 126 F. Supp. 3d at 840, and conclude that an inference of scienter is "powerful," "cogent," or "strong in light of other explanations," *Tellabs*, 551 U.S. at 323-24. A "reasonable" or "permissible" inference of scienter is not enough to survive dismissal, and "omissions and ambiguities count against inferring scienter." *Id.* at 326.

1. Plaintiffs Have Not Alleged Specific Facts Creating A Strong Inference Of Conscious Misbehavior Or Recklessness

Plaintiffs ask the Court to infer scienter based on the following allegations:

1) "The extensive evidence of data manipulation detailed in the Citizen Petition, and confirmed by [Bik and Rossner], demonstrates a pattern of ***intentional*** scientific misconduct that undermines the foundational science related to simufilam as a treatment for Alzheimer's disease," CC ¶¶ 446-50;

2) "Defendants' scienter is . . . evidenced by the attempts to cover-up their deceptive and fraudulent activities" by "present[ing] manipulated images to journals as original data when those journals began investigating the Citizen Petition's revelations," *id.* ¶¶ 451-53;

3) "Cassava's repeated denials regarding the Citizen Petition's claims were made recklessly and without a sufficient attempt to verify whether the allegations of image manipulation and falsification were true," *id.* ¶¶ 457-64;

4) "Cassava misleadingly described the lab conducting the Phase 2b reanalysis as an 'outside' lab," *id.* ¶¶ 454-56;

5) Cassava falsely claimed "that the Company's management team was 'supported by scientific advisors'" and "advised" by "'[l]eading experts in the field,'" *id.* ¶¶ 480-83; and

6) Messrs. Barbier and Friedmann and the Company have a "pattern and history of making false and misleading statements," *id.* ¶¶ 475-79.

These allegations, whether considered individually or in totality, are insufficient.

In connection with the first three allegations, Plaintiffs continue to rely on accusations from the Citizen Petitions and the speculative, purported opinions of their experts. But to plead scienter, Plaintiffs must "state . . . ***facts***." *Tellabs*, 551 U.S. at 313 (emphasis added). And as established above, the Fifth Circuit and its district courts distinguish allegations of fact from *allegations of allegations*, *see, e.g.*, *Parker*, 126 F. Supp. 3d at 843 (rejecting "uncharged, unadjudicated wrongdoing" to plead securities fraud), and "expert" or speculative opinions, *see, e.g.*, *Blackwell*, 440 F.3d at 285-86 (rejecting expert opinion to plead securities fraud). Accordingly, unverified allegations regarding Cassava's alleged manipulation of preclinical and clinical research, pattern of scientific misconduct, and submission of manipulated original data and images are insufficient to establish scienter because they do not involve substantiated facts. *See, e.g.*, *Parker*, 126 F. Supp. 3d at 843 ("uncharged, unadjudicated wrongdoing" is insufficient to plead securities fraud);

Blackwell, 440 F.3d at 285-86 (expert opinion "cannot substitute for facts under the PSLRA").[21]

The balance of Plaintiffs' allegations of "conscious misbehavior" are similarly deficient. Plaintiffs again stack accusation on accusation in allegations four through six, which are easily refuted by both Plaintiffs' own pleading and information subject to judicial notice. As already discussed, the Phase 2b reanalysis was conducted at CUNY, an "outside" lab, and Cassava was indeed "supported by" and "advised by" advisors and experts, including as Plaintiffs concede, "Dr. Wang and four others," as well as Sahakian and Arnold. CC ¶ 480. Likewise, no government agency or authority concluded that Defendants made any "false [or] misleading statements" in the referenced matters. *See* Exs. 7 & 8; *see generally* CC. Moreover, with respect to Mr. Barbier and Dr. Friedmann, the other "matters Plaintiffs reference . . . [have] no connection to the present case. It is undisputed [that] none of [the] allegations [in those matters] are in any way related to [the instant matter], and accordingly they are ***not probative*** of whether or not [defendant] acted knowingly or recklessly with regard to the instant matter." *In re Dell, Inc. Sec. Litig.*, 591 F. Supp. 2d 877, 905 (W.D. Tex. 2008) (emphasis added).

Plaintiffs thus fail to plead scienter on these bases.[22]

2. Plaintiffs' Allegations Regarding Motive Do Not Support An Inference Of Scienter

It is well-established that the lack of any motive for Defendants to commit securities fraud seriously undermines any inference of scienter. *Mun. Emps.' Ret. Sys. of Michigan v. Pier 1 Imps.,*

[21] On the same authority, Plaintiffs' reliance on unsubstantiated allegations from random, unidentified internet commenters, CC ¶¶ 487-89, and other financially interested short sellers, *id.* ¶¶ 490-93, must likewise be rejected. Attempts to correct such unsubstantiated smears are also not probative of scienter.

[22] Plaintiffs also allege that scienter may be inferred because "Barbier is . . . ***married*** to Dr. Burns." CC ¶ 442. It is not clear whether Plaintiffs here allege such scienter on the part of Mr. Barbier or Dr. Burns, but courts reject such an inference on the basis of marriage. *See, e.g.*, *Weiss v. Amkor Tech., Inc.*, 527 F. Supp. 2d 938, 952 (D. Ariz. 2007) ("[Defendant's] personal relationship [marriage] . . . does ***not*** strongly compel an inference of scienter" (emphasis added)).

Inc., 935 F.3d 424, 431 (5th Cir. 2019) ("Motive is a critical—though not essential—aspect of a successful claim for securities fraud. . . . A failure to show motive means that 'the strength of the circumstantial evidence of scienter must be correspondingly greater.'") (citation omitted).[23] By far, the most common alleged motive in any fraud case is insider stock sales before the alleged corrective disclosures, i.e., when the stock price of the company in question is allegedly inflated.

Here, Plaintiffs have not alleged any stock sales by any Defendant during the putative class period.[24] Together, the individual Defendants or their family members owned approximately 2.7 million Cassava shares or stock options. Ex. 9 (2021 Cassava Proxy Statement) at 18. By the end of the alleged class period, the value of Defendants' stock had declined by approximately $99 per share. *See* CC ¶¶ 15, 45. Under Plaintiffs' theory of the case, Defendants orchestrated a scheme to defraud investors in order to collectively lose millions of dollars of their personal wealth. The absurdity of Plaintiffs' theory negates any inference of scienter. *See Abrams*, 292 F.3d at 434 ("Absent an allegation that the defendants profited from the inflated stock value or the offerings, such allegations fail" to give rise to a strong inference of scienter); *Rozenweig*, 332 F.3d at 867 (finding where "there is no allegation that defendants sold their . . . shares," such pleading "call[s] into question the alleged motive to artificially inflate the stock price").

In the Complaint, Plaintiffs allege that Defendants' supposed misstatements and omissions were motivated by: (1) an "executive bonus plan"; and (2) the desire to "raise capital to fund

[23] "Allegations of motive and opportunity, standing alone" do not suffice to allege scienter. *Abrams*, 292 F.3d at 430. The Fifth Circuit has specifically held that allegations that defendants "were motivated to commit fraud by the need to raise capital, the desire for enhanced incentive compensation and the desire to sell stock at inflated prices" are "insufficient to [even] ***support*** an inference of scienter." *Id.* at 434 (emphasis added) (collecting cases). This insufficiency afflicts all motives "universal to corporations and their officers." *See Flaherty*, 565 F.3d at 213 (applying rule under Rule 9(b) but noting "the PSLRA's stricter scienter requirement").

[24] Given that securities transactions by Company insiders are publicly filed and available, the Court can assume that Plaintiffs' failure to allege insider stock transactions means that there were none.

[Cassava's] operations." CC ¶¶ 465-74. But under controlling authority, both bases are "insufficient to [even] ***support*** an inference of scienter"—as a matter of law. *Abrams*, 292 F.3d at 434 (emphasis added) (holding "desire for enhanced incentive compensation" and "need to raise capital" do not "support an inference of scienter"). Indeed, if "the opposite [were] true, the executives of virtually every corporation in the United States would be subject to fraud allegations." *Id.*; *see also Flaherty*, 565 F.3d at 213 (rejecting motives "universal to corporations and their officers").[25]

Nor do Plaintiffs allege that Defendants misrepresented Cassava's capital structure or financial obligations. *See generally* CC. Devoid of these necessary contentions, Plaintiffs fail to plead any cognizable motive and, consequently, scienter. *See Abrams*, 292 F.3d at 434 ("Absent an allegation that the defendants profited from the inflated stock value or the offerings, such allegations fail" to give rise to strong inference of scienter); *see also Rozenweig*, 332 F.3d at 867, 868 ("[N]o allegation that defendants sold their . . . shares [] calls into question the alleged motive to artificially inflate the stock price"; "It is difficult to form a 'strong inference' of scienter from the alleged undercapitalization of a company when plaintiffs appear to concede that the company accurately disclosed its capital structure and financial obligations").

[25] Notably, Plaintiffs fail to plead that Defendants have been paid ***any*** cash bonuses under the 2020 Cash Incentive Bonus Plan. *See* CC ¶¶ 465-74. In fact, contrary to Plaintiffs' claims, *see id.* ¶¶ 100-03, Defendants were ***ineligible*** to be paid these bonuses under the plan throughout the entire alleged class period, *see* Ex. 9 at 20 ("Payment of cash bonuses is contingent on (1) the Company having completed a Merger Transaction, or (2) the Compensation Committee of the Board (the 'Compensation Committee') having determined the Company has sufficient cash on hand, as defined in the Cash Incentive Plan, to render payment, neither of which may ever occur. Accordingly, there can be no assurance that Cash Incentive Plan participants will ever be paid a cash bonus that is awarded under the Cash Incentive Plan, even if the Company's market capitalization increases significantly.").

3. Generalized And Group Pleading Provides No Basis For Scienter And Fails To Meet The Fifth Circuit's Rigorous Requirements For Pleading Fraud

Plaintiffs' pleading is also flawed because scienter may not be alleged "in generalized terms." *Rosenzweig*, 332 F.3d at 868. Instead, Plaintiffs must allege scienter "for '***each*** act or omission alleged' to be false or misleading." *Diodes, Inc.*, 810 F.3d at 956 (emphasis added) (citation omitted). Likewise, allegations of scienter "must be analyzed individually" and "distinguish among the defendants" by "each one's role, intent, and knowledge." *Carlton v. Cannon*, 184 F. Supp. 3d 428, 459 (S.D. Tex. 2016); *see also Shaw*, 537 F.3d at 532-33 (rejecting "the group pleading approach"). "[A]llegations that 'the defendants' or 'the company' knew something do not meet that standard," *In re All Am. Pipeline, LP Sec. Litig.*, 245 F. Supp. 3d 870, 921 (S.D. Tex. 2017) (citing *Southland*, 365 F.3d at 366), because the inquiry focuses on the "state of mind of the individual . . . corporate officials who make . . . issue. . . or approve" the statement rather than the "collective knowledge of . . . the corporation's officers and employees," *Shaw*, 537 F.3d at 533-34 (internal quotation marks omitted).

In alleging ***dozens*** of separate instances of purported data manipulation, Plaintiffs rely on a single, generalized, blanket allegation of mental state: All Defendants knew or should have known that data or images were false or manipulated ***because the Citizen Petitions and Plaintiffs' experts say so***. Referring back to a multitude of paragraphs recounting various alleged errors in selected papers and trials, Plaintiffs allege different roles that different people played in different instances of alleged deception. *See, e.g.*, CC ¶¶ 445, 450-51 (citing *id.* ¶¶ 105-09, 122-28, 137, 140-41, 155-90, 200-16, 237-40, 264, 283-84, 292, 338-62, 386-407, 425-28). But Plaintiffs' ***only*** allegation as to any Defendant's intent or knowledge—including how, why, or when any of the Defendants knew or should have known of falsity or manipulation, particularly where government agencies and journals rejected or did not substantiate the allegations—unavoidably refers back the

Citizen Petitions and Bik/Rossner. *See, e.g.*, *id.* ¶¶ 438-39, 446, 451.

This does not suffice to plead scienter. Indeed, even if the uncharged and unadjudicated allegations and speculative opinions of the Citizen Petitions and Bik and Rossner were true (and they are not), Plaintiffs still do not plead scienter because the PSLRA requires more than a general allegation that all "defendants . . . knew or had access to information" contradicting public statements. *Abrams*, 292 F.3d at 433. Plaintiffs must instead "point[] to . . . ***particular*** . . . ***information*** . . . available to [each] defendant[] ***before***" the alleged misstatements were made, *id.* (emphases added), and, further, "identify exactly who supplied the information or when they knew the information," *Rosenzweig*, 332 F.3d at 868; *see also Blackwell*, 440 F.3d at 288 (requiring plaintiffs "to plead with specificity . . . that [alleged misstatements] were false or misleading when made" and "that a Defendant knew they were false or misleading"). In uniformly relying on the Citizen Petitions and Bik/Rossner to allege the requisite mental state against all Defendants, Plaintiffs do not meet this standard as to any Defendant.

Even where Plaintiffs make specific allegations against particular Defendants, they still fall short. "A pleading of scienter may not rest on the inference that defendants must have been aware of the misstatement based on their positions within the company." *Abrams*, 292 F.3d at 432. Nor may Plaintiffs rely on "plainly . . . ***hindsight*** assessment[s]" to plead scienter, *Rosenzweig*, 332 F.3d at 867-68, because Defendants will "not be held responsible for failure to foresee future events," *Abrams*, 292 F.3d at 433. But here, Plaintiffs do just that. All allegations of scienter against any Defendant by name expressly rely on their respective corporate roles and the allegations of the Citizen Petition and Bik and Rossner—which post-date most, if not all, of the alleged misstatements. *See, e.g.*, CC ¶¶ 441-45. This is insufficient to plead scienter.

E. The Complaint Does Not Adequately Allege Loss Causation

Plaintiff's failure to adequately plead an actionable misrepresentation or omission, or to plead scienter, is sufficient to dispose of this case. Plaintiff's failure to adequately plead loss causation serves as a third, independently dispositive ground for dismissal.

The federal securities laws are not intended to, and do not, "provide investors with broad insurance against market losses"; rather, the securities laws are designed "to protect [investors] against those economic losses that misrepresentations [or omissions] ***actually cause***." *Dura Pharms., Inc. v. Broudo*, 544 U.S. 336, 345 (2005) (emphasis added). This is why a plaintiff must plead "loss causation" to state a claim for securities fraud. *See id.*; 15 U.S.C. § 78u-4(b)(4).[26]

Loss causation is shown by identifying a "corrective disclosure" followed by a drop in the stock price. *Parker*, 126 F. Supp. 3d at 841-42. A corrective disclosure is "a release of information that reveals to the market the pertinent truth that was previously concealed or obscured by the company's fraud." *Id.* Importantly, to qualify as a corrective disclosure, the disclosure at issue must "reveal the truth of the previously misleading statement" to the market. *Archdiocese of Milwaukee Supporting Fund, Inc. v. Halliburton Co.*, 597 F.3d 330, 336-37 (5th Cir. 2010), *rev'd on other grounds*, 563 U.S. 804 (2011); *see also Lentell v. Merrill Lynch & Co.*, 396 F.3d 161, 175 n.4 (2d Cir. 2005) ("[A]llegations do not amount to a corrective disclosure [if] they do not reveal to the market the falsity of the prior [statements]."). Accordingly, it follows that "[a]n alleged corrective disclosure that does not reveal the falsity of Defendants' challenged public statements cannot establish loss causation." *Janbay v. Canadian Solar, Inc.*, 2012 WL 1080306,

[26] Under *Dura,* loss causation relies on notions of proximate cause and loss. *See* 544 U.S. at 346 (2005). To establish proximate causation, a plaintiff must "prove that when the 'relevant truth' about the fraud began to leak out or otherwise make its way into the marketplace[,] it caused the price of the stock to depreciate and thereby proximately cause[d] the plaintiff's economic loss." *Lormand v. US Unwired, Inc.*, 565 F.3d 228, 255 (5th Cir. 2009).

at *14 (S.D.N.Y. Mar. 30, 2012); *see also Catogas v. Cyberonics, Inc.*, 292 F. App'x 311, 314-15 (5th Cir. 2008) ("Plaintiff[s] must allege . . . [that the] corrective disclosure[] . . . revealed the falsity of [the company's] previous representations").

Critically, the information disclosed in a corrective disclosure must be new. *Emps.' Ret. Sys. v. Whole Foods Mkt., Inc.*, 905 F.3d 892, 904 (5th Cir. 2018) ("the corrective disclosure must reveal some information ***not already known to the market***, otherwise the stock price would have incorporated that information, and its disclosure could not have caused a loss.") (emphasis added) (internal citations omitted)*; Catogas*, 292 F. App'x at 217 (a plaintiff must allege "new facts" that "demonstrate[] that the 'truth became known'") (citation omitted). Consequently, disclosures revealing "[c]onfirmatory information . . . already known to the market . . . will not affect the stock price." *Halliburton*, 597 F.3d at 337.

1. <u>The Alleged "Corrective Disclosures" Are Merely Accusations; They Do Not Reveal Any "Pertinent Truth" Regarding Defendants' Prior Statements.</u>

In the Complaint, Plaintiffs identify the following purported corrective disclosures:

1. The Citizen Petitions (CC ¶¶ 18-19, 31-32; 328, 330; 380-85);
2. Elisabeth Bik's Commentary on her blog, Twitter, and PubPeer (*Id.* ¶¶ 24-25; 326-27; 329-30; 336-37; 343-49);
3. The April 18, 2022 *New York Times* article (*Id.* ¶¶ 40-41);
4. The *Journal of Neuroscience's* December 17, 2021 Expression of Concern (*Id.* ¶¶ 33-34);
5. *Alzheimer's Research & Therapy's* June 1, 2021 Retraction (*Id.* ¶¶ 42-43);
6. Cassava's November 15, 2021 10-Q disclosing "Government Investigations" (*Id.* ¶¶ 26-27);
7. *Reuters'* July 27, 2022 article disclosing the DOJ investigation (*Id.* ¶¶ 44-45);
8. Cassava's August 25, 2021 press release responding to the Citizen Petition (*Id.* ¶¶ 316-17);

9. Quanterix's August 27, 2022 press release regarding its participation in the Phase 2 testing (*Id.* ¶¶ 16-17); and

10. Cassava's September 3, 2021 press release responding to the Citizen Petition (*Id.* ¶¶ 20-21).

Plaintiffs have failed to establish loss causation because ***none*** of these disclosures reveal a "truth" that was previously misstated or omitted. The vast majority of the relevant disclosures simply contain uncharged and unadjudicated public accusations of wrongdoing. Indeed, neither the Citizen Petitions nor the ensuing accusations made by Elisabeth Bik "on Twitter and PubPeer" reveal ***any*** ultimate truth regarding the validity of Cassava's research. *See id.* ¶¶ 12, 18, 24, 29 and 31. Rather, they are uncharged, unvetted and unverified accusations, made by individuals with an undisputed financial "axe to grind," that are based entirely on speculation and second-hand observations.[27] *See, e.g.*, *Metzler Inv. GMBH v. Corinthian Colls., Inc.*, 540 F.3d 1049, 1064 (9th Cir. 2008) (*Dura* does not "support the notion that loss causation is pled where a defendant's disclosure" merely reveals the '***potential***' for widespread fraudulent conduct").[28]

Similarly, the public statements by the *Journal of Neuroscience* and *Alzheimer's Research & Therapy* do not "correct [or] reveal the truth" of prior misstatements, CC ¶¶ 33-34, 42-43; they simply note the previously disclosed public allegations against Cassava. Indeed, on December 17, 2021, following its finding that there was "no evidence of data manipulation" in a 2012 paper on simufilam, the *Journal of Neuroscience* issued a statement that its editors were "aware of concerns

[27] The April 18, 2022 *New York Times* article is simply a further collection of the unadjudicated accusations from the Citizen Petitions. *See* CC ¶ 40.

[28] The Citizen Petitions plainly admitted that they were not, and could not be, the arbiter of whether their allegations and accusations were true. Indeed, as the FDA acknowledged, the first Citizen Petition asked the FDA to "initiate an investigation and fact-finding process." Ex. 4 at 2; *see also* Ex. 1 at 2-3 ("Petitioner is therefore requesting the FDA to halt the clinical studies pending a thorough audit of the publications and data relied on by Cassava . . . Petitioner is further requesting that the FDA oversee third party reanalysis of all clinical biomarker studies of simufilam . . . Petitioner has enclosed with this Petition . . . a detailed technical report presenting multiple reasons to question the quality and integrity of [Cassava's] research."

about Western blots in this study," i.e., from the Citizen Petition, and they would "await the outcome" of an "investigation by the academic authorities at [CUNY]." *Id.* ¶¶ 22; 33.[29] The journal's statements do not reveal any new information, much less the "pertinent truth" about Cassava's allegedly prior statements.[30] *Parker*, 126 F. Supp. 3d at 841-42; *see also Catogas*, 292 F. App'x at 317 (indicating that a disclosure of "new facts" must "demonstrate that the 'truth became known'") (citation omitted).

Plaintiffs next point to the Company's disclosure in the November 15, 2021 10-Q that "[c]ertain government agencies have asked us to provide them with corporate information and documents" and a July 27, 2022 *Reuters* story concerning the DOJ's ongoing inquiry. CC ¶¶ 26, 44. It is well-established, however, that the disclosure of governmental investigations, without "revelations of prior misrepresentations," does not suffice as corrective disclosures. *In re Dell*, 591 F. Supp. 2d at 909-10. "[T]he announcement of an investigation reveals just that—an investigation—and nothing more" and although "stock prices may fall upon the announcement of an SEC investigation, . . . that is because the investigation can be seen to portend an added risk of future corrective action." *Meyer v. Greene*, 710 F. 3d 1189, 1201 (11th Cir. 2013). In other words, "the investigations, in and of themselves, [do not] reveal to the market that a company's previous

[29] On June 1, 2022, *Alzheimer's Research and Therapy* retracted a 2017 article unrelated to simufilam authored by Dr. Wang because the Western blot data provided by Dr. Wang was "***deemed insufficient*** to address . . . concerns." CC ¶ 433. Neither Dr. Burns nor anyone else associated with Cassava was an author of this piece, and thus the retraction plainly could not "reveal" any alleged misstatement by Cassava personnel.

[30] Notably, most of the journals that have examined the Citizen Petition's allegations found ***no evidence of data manipulation***. *See* Sect. IIF *supra*. Only one of the four articles that Plaintiffs cite as related to Cassava's research on simufilam has been retracted; the other three have been investigated and Cassava has been exonerated. *See id.*; CC ¶ 287(a). And the other journals referenced in the Complaint and in Cassava's public statements—*Alzheimer's & Dementia*, *Neuroimmunology and Neuroinflammation*, *Biological Psychiatry*, and the *Journal of Biological Chemistry*—have not issued any statements regarding the articles published by Dr. Wang or Dr. Burns. *See e.g.*, CC ¶¶ 79, 87, 207, 289. These papers remain published, peer-reviewed research.

statements were false or fraudulent." *Id.*[31]

Plaintiffs further allege that Cassava's August 25, 2021 press release, which aggressively denied the allegations in the Citizen Petition and provided additional detail on Cassava's Phase 2b biomarker data, was a corrective disclosure. This is an absurd claim. The Complaint does not even begin to explain how Cassava's robust and detailed ***denials*** of the Citizen Petition's accusations could have "revealed" their supposed "truth." Relatedly, Plaintiffs allege that the August 25 press release itself contained a misrepresentation—that the Phase 2b "plasma p-tau data from Alzheimer's patients was generated by Quanterix Corp." CC ¶¶ 14-15, 316-17. Plaintiffs note that on August 27, Quanterix issued a statement clarifying that it '"did not ***interpret*** the test results or prepare the data' Cassava presented," *Id.* ¶ 16 (emphasis added), and Cassava later confirmed that Quanterix's "sole responsibility with regard to this clinical study was to perform sample testing, specifically, to measure levels of p-tau in plasma samples collected from study subjects," *id.* ¶ 16. As noted above, the statements by Cassava and Quanterix are consistent and nothing in Quanterix's release suggests that Cassava's prior statement was inaccurate.[32]

Plaintiffs also raise a September 3, 2021 public statement from Mr. Barbier in which he opined that "the allegations [in the Citizen Petition] are false" and disclosed that while there had been two "no[n] material" "visual errors" in one Cassava publication and one poster presentation,

[31] "We agree . . . that generally, commencement of government investigations on suspected fraud do not, standing alone, amount to a corrective disclosure." *Pub. Emps. Ret. Sys. of Mississippi, Puerto Rico Tchrs. Ret. Sys. v. Amedisys, Inc.*, 769 F.3d 313, 323 (5th Cir. 2014) (finding that loss causation had been adequately alleged only when disclosure of government investigations was paired with the disclosure of information that "collectively constitute and culminate in a corrective disclosure that adequately pleads loss causation," e.g., resignations by the company's CEO and CIO and a company's disappointing earnings report). Here, Plaintiffs' other supposed corrective disclosures merely concern "allegations of allegations," and do not "collectively . . . culminate" in an adequate corrective disclosure. *See id.*

[32] For example, Cassava never claimed that Quanterix "interpreted" or "prepared the data" the Phase 2b results; it merely claimed that Quanterix "generated," or created the data, which is done by "perform[ing] . . . testing" and "measur[ing] levels of p-tau." CC ¶¶ 14, 16, 317, 323-24.

neither had affected Cassava's findings: "the data analysis [was still] correct." *Id.* ¶¶ 332, 334. None of these clarifying statements "reveal the falsity of [the company's] previous representations," that simufilam appears to be a promising drug candidate based on almost fifteen years of research. *Catogas*, 292 F. App'x at 314-15. They thus fail to qualify as "corrective."

2. New Commentary Or Detail On Already Public Information Is Not "Corrective"

Most of the supposed "corrective disclosures" identified in the Complaint occurred after (in some cases, long after) shareholder plaintiffs initiated this lawsuit. In other words, these "corrective disclosures" concern misstatements that allegedly occurred ***months*** after shareholders had enough information to commence multiple securities fraud actions, which were eventually consolidated into this action. The reason that Plaintiffs were able to initiate this action in August 2021 is that the initial Citizen Petition comprehensively (though falsely and maliciously) catalogued the accusations about Cassava's research. The subsequent disclosures do not provide materially new information, and thus they cannot be "corrective." *See Whole Foods Mkt.*, 905 F.3d at 904 ("plaintiffs do not allege that any new information about [defendant's] overcharging had come out since the [government agency] released its findings more than a month prior. . . .[t]herefore, the market was well aware."); *Catogas*, 292 F. App'x at 317 ("Although the stock price dropped dramatically on the day of the . . . press release, no new facts concerning [defendant's] stock-option accounting were disclosed in that release which demonstrated that the truth became known.") (internal quotation marks and citation omitted).

Specifically, the Citizen Petitions supplements, Elisabeth Bik's accusations, and the *New York Times* article all provide commentary on the initial Citizen Petition that attempts to "connect the dots" through speculation, opinion, or interpretation. None of these can establish loss causation. *See, e.g.*, *In re Omnicom Grp., Inc. Sec. Litig.*, 541 F. Supp. 2d 546, 552 (S.D.N.Y.

2008) (indicating that "[a] recharacterization of previously disclosed facts cannot qualify as a corrective disclosure"); *In re AOL Time Warner, Inc. Sec. Litig.*, 503 F. Supp. 2d 666, 679-80 (S.D.N.Y. 2007) ("[W]hile each of these alleged partial disclosures, which comprise . . . third-party comments plucked from over a year's worth of news, notes some concern about [defendants'] accounting, none of them amount to a corrective disclosure.") (internal quotations omitted).[33] And the statements made by the technical journals *at most* establish "confirmatory information"—that there are concerns with certain Western blot data supporting simufilam or otherwise created by Dr. Wang—that was "already known to the market" at the time. *Halliburton Co.*, 597 F.3d at 337. None of these disclosures reveal any "new facts," as they merely recharacterize and further speculate about the Citizen Petitions' allegations, so they "may not constitute . . . a corrective disclosure." *Catogas*, 292 F. App'x at 314, 317.

F. Plaintiffs Have Failed To State A Section 20(a) Violation

"Control person" liability under Section 20(a) of the Exchange Act is "derivative, i.e., such liability is predicated on the existence of an independent violation of the securities laws." *In re Plains All Am. Pipeline, L.P. Sec. Litig.*, 245 F. Supp. 3d 870, 893 (S.D. Tex. 2017) (citing 15 U.S.C. § 78t(a)). The Complaint fails to adequately plead a primary violation of Section 10(b) and, therefore, Plaintiffs' secondary claims under Section 20(a) fail as well. *Id.*

IV. CONCLUSION

For these reasons, the Complaint should be dismissed with prejudice.

[33] *See also Janbay*, 2012 WL 1080306, at *16 ("[T]he raising of questions and speculation by analysts and commentators does not reveal any 'truth' about an alleged fraud as required by *Dura*"); *Nat'l Junior Baseball League v. Pharmanet Dev. Grp. Inc.*, 720 F. Supp. 2d 517, 561 n.34 (D.N.J. 2010) ("To the extent that some of these reports merely provided more details about the public disclosures, they are insufficient to establish loss causation.").

Dated: October 24, 2022

Respectfully submitted,

/s/ James N. Kramer

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CERTIFICATE OF SERVICE

The undersigned certifies that on October 24, 2022, a true and correct copy of this motion was served upon each attorney of record through the Court's CM/ECF system.

/s/ James N. Kramer
James N. Kramer

EXHIBIT A

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

IN RE CASSAVA SCIENCES, INC. SECURITIES LITIGATION	§	Master File No. 1:21-cv-00751-DAE
	§	CLASS ACTION
This Document Relates To:	§	
ALL ACTIONS.	§	

AFFIDAVIT OF ALEXANDER K. TALARIDES IN SUPPORT OF DEFENDANTS' MOTION TO DISMISS THE CONSOLIDATED COMPLAINT

I, Alexander K. Talarides, declare as follows under the penalty of perjury:

1. I am a partner at Orrick, Herrington & Sutcliffe LLP, counsel for Defendants Cassava Sciences, Inc. ("Cassava" or the "Company"), Remi Barbier, Lindsay Burns, Nadav Friedmann, and Eric J. Schoen (collectively, "Defendants"). I submit this declaration in support of Cassava's Motion to Dismiss Plaintiffs' Consolidated Complaint for Violations of the Federal Securities Laws. I have personal knowledge of the matters set forth in this declaration, and if called upon to do so I could and would testify thereto.

2. Attached hereto as Exhibit 1 is a true and correct copy of the initial Citizen Petition and the accompanying Statement of Concern filed with the Federal Drug Administration and available on the public FDA nonruling docket, dated August 18, 2021.

3. Attached hereto as Exhibit 2 is a true and correct copy of a press release disclosing the short positions in Cassava held by the authors of the Citizen Petition, dated August 25, 2021.

4. Attached hereto as Exhibit 3 is an excerpt of Cassava Sciences, Inc.'s Stock Price chart from August 18, 2021 to August 26, 2021.

5. Attached hereto as Exhibit 4 is a true and correct copy of the FDA Response Letter denying the Citizen Petition, dated February 10, 2022.

6. Attached hereto as Exhibit 5 is a true and correct copy of the 2021 *Molecular Neurodegeneration* Retraction Note, dated February 4, 2022.

7. Attached hereto as Exhibit 6 is a true and correct copy of the *Neurobiology of Aging* Expression of Concern, available online March 22, 2022.

8. Attached hereto as Exhibit 7 is an excerpted copy of Cassava's 2021 quarterly report for Q3 on Form 10-Q, containing Cassava's disclosure that certain government agencies had requested information and documents from Cassava, dated November 15, 2021.

9. Attached hereto as Exhibit 8 is a true and correct copy of a transcript of the Q&A B. Riley Securities' 2022 Virtual Neurology & Ophthalmology Conference Transcript, containing Remi Barbier's statements regarding the FDA's denial of the Citizen Petition, dated April 27, 2022.

10. Attached hereto as Exhibit 9 is an excerpted copy of Cassava's 2021 proxy statement disclosing Defendants' stock ownership, dated March 31, 2021.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed in San Francisco, California on October 24, 2022.

/s/ Alexander K. Talarides
Alexander K. Talarides

EXHIBIT 1

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August 18, 2021

VIA FEDEX

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CITIZEN PETITION

This petition for administrative action is submitted on behalf of the undersigned Petitioner pursuant to 21 C.F.R. § 10.30 and related relevant provisions of the Federal Food, Drug, and Cosmetic Act or the Public Health Service Act to request that the Commissioner of Food and Drugs (the "Commissioner") halt two ongoing trials of the drug Simufilam (formerly PTI-125) sponsored by Cassava Sciences (NCT04388254 and NCT04994483), pending a thorough audit by the FDA of the matters described herein.

Cassava Sciences is a public company that is focused on developing therapies targeted at Alzheimer's Disease. Cassava is currently sponsoring clinical trials NCT04388254 and NCT04994483 for its proprietary drug Simufilam, which is claimed to represent a novel approach to Alzheimer's treatment. In its recent SEC filings and elsewhere, the company has publicly announced the successful completion of its End of Phase 2 meeting for Simufilam with the FDA, and stated that the company and the FDA are aligned on key elements of a Phase 3 clinical program. The company has stated that it expects to initiate its Phase 3 program with Simufilam in September 2021.

Information available to the petitioner, however, which is summarized below and detailed in the enclosed technical report, raises grave concerns about the quality and integrity of the laboratory-based studies surrounding this drug candidate and supporting the claims for its efficacy. Petitioner is therefore requesting the FDA to halt the clinical studies pending a thorough audit of the publications and data relied on by Cassava in support of its claims.

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I. ACTION REQUESTED

Petitioner is requesting that the FDA halt the current clinical studies of Simufilam (PTI-125) sponsored by Cassava Sciences (NCT04388254 and NCT04994483), pending audits of (1) the publications relied on by Cassava in support of its scientific claims concerning Simufilam; (2) the IND application for Simulifam's use in Alzheimer's Disease; and (3) all clinical biomarker studies of Simufilam in Alzheimer's Disease. Petitioner is further requesting that the FDA oversee third party reanalysis of all clinical biomarker studies of Simufilam in Alzheimer's disease. The ongoing clinical trials should be paused until the satisfactory completion of these investigations.

II. STATEMENT OF GROUNDS

Petitioner has enclosed with this Petition (and incorporates herein) a detailed technical report presenting multiple reasons to question the quality and integrity of the research supporting Cassava's claims about Simufilam's use for Alzheimer's Disease. In sum, that report explains:

(1) All of the foundational science supporting Cassava's claims about Simufilam's use for Alzheimer's Disease comes from a series of papers with two common co-authors (Dr. Hoau-Yan-Wang at City University of New York and Dr. Lindsay Burns of Cassava). The studies of Drs. Wang and Burns were used by Cassava to obtain NIH grants and to open an Investigational New Drug (IND) application to study Simufilam. They form the foundation for the current clinical trials of Simufilam.

(2) No other lab has confirmed Cassava's research connecting Filamin A to Alzheimer's Disease, nor has any other lab confirmed that Simufilam binds or modifies Filamin A or has effects in Alzheimer's Disease models.

(3) Close review of the data and analyses in the foundational research papers and Cassava's recent publications of clinical trial analyses presents three primary areas of concern:

   a. The underlying papers of Drs. Wang and Burns involve extensive use of Western blot analyses to support their claims connecting Simufilam to Alzheimer's. Detailed analysis of the western blots in the published journal articles shows a series of anomalies that are suggestive of systematic data manipulation and misrepresentation.

   b. Some of the foundational studies published by Drs. Wang and Burns make claims about Simufilam's effects in experiments conducted on postmortem human brain tissue. The methodology allegedly used in these experiments defies logic, and the data presented again have hallmarks of manipulation.

   c. Cassava's presentation of clinical biomarker data from the Phase 2b trials raises questions about the validity of the data. The CSF samples in this study were first analyzed by an outside lab, which found that Simufilam was ineffective in improving the primary biomarkers end point and high variability in other biomarkers. But Cassava had these samples analyzed again and this time reported that Simufilam rapidly and robustly improved a wide array of

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biomarkers. Cassava has not fully published the data from this reanalysis, but a presentation poster that it published on July 26, 2021, which appears to describe aspects of that work, shows signs of data anomalies or manipulation.

(4) Six further aspects of the research by Drs. Wang and Burns are incompatible with scientific norms, and these claims raise further suspicions.
   a. Remarkably High Affinity Binding Between PTI-125 and Filamin A.
   b. Remarkably High Affinity Binding Between Naloxone and Filamin A.
   c. Isoelectric Focusing Experiments in Multiple Papers Indicate 100% of Filamin in Altered Conformation in Alzheimer's Disease and largely Restored to Correct Conformation by PTI-125.
   d. Novel Blood Diagnostic SavaDx Represents Plasma Filamin A Level
   e. PTI-125/Simufilam Improves Memory in a Mouse Model of Alzheimer's Disease.
   f. PTI-125/Simufilam Blocks the Interaction Between β-amyloid and α7- Nicotinic Acetylcholine Receptors.

Petitioner submits that the extensive evidence set forth in the enclosed report, which presents grave concerns about the quality and integrity of the scientific data supporting Cassava's claims for Simulifam's efficacy, provides compelling grounds for pausing the ongoing clinical trials until the FDA can conduct and complete a rigorous audit of Cassava's research.

III. ENVIRONMENTAL IMPACT

Petitioner states that the relief requested in this petition will have no environmental impact and therefore an environmental assessment is not required under 21 C.F.R. Sections 25.30 and 25.31.

IV. ECONOMIC IMPACT

Economic impact information will be submitted at the request of the Commissioner.

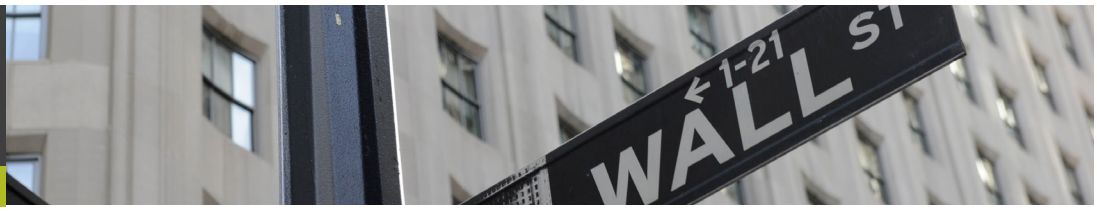
V. CERTIFICATION

The undersigned certifies that, to the best knowledge and belief of the undersigned, this petition includes all information and views on which the petition relies, and that it includes representative data and information known to the petitioner which are unfavorable to the petition.

Respectfully submitted,

Jordan A. Thomas
Enclosures

Labaton Sucharow



Statement of Concern Regarding the Accuracy and Integrity of Clinical and Preclinical Data Supporting the Ongoing Clinical Evaluation of Compound PTI-125, Also Known As Simufilam

August 18, 2021

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TABLE OF CONTENTS

A. Executive Summary

For over 15 years, Cassava Sciences (previously Pain Therapeutics, Inc, PTI) has funded the lab of Dr. Hoau-Yan Wang at City University of New York (CUNY). Together with Dr. Lindsay Burns at Cassava, Dr. Wang has published nearly a dozen papers connecting Filamin A protein with pain and Alzheimer's disease (AD).

Cassava Sciences created a drug candidate called simufilam (previously PTI-125) that they claim binds Filamin A and has beneficial effects in biochemical and animal models of AD. The studies from Drs. Wang and Burns discussed in this dossier were used by Cassava Sciences to garner NIH grants and to open an investigational new drug (IND) application to study simufilam in AD patients. They form the basic science foundation for two completed clinical trials (phase IIa and IIb) which exposed over 70 patients to simufilam. Cassava Sciences is currently recruiting 200 additional patients for a follow-up open-label trial.

This report raises concerns about the quality and integrity of the laboratory-based studies surrounding this drug candidate. To preface the analysis that follows, no other labs have confirmed this research connecting Filamin A to pain or AD. No other labs have confirmed that simufilam binds or modifies Filamin A or has effects in AD models.

In this document, three primary concerns are raised:

- The validity of clinical biomarker data: Biomarker analysis from patients treated with simufilam in Cassava's double-blind study forms a primary basis of Cassava's claim that simufilam engages its target in the central nervous system, but there are concerns about the integrity of this data. The CSF samples in this study were analyzed by an outside lab, which found that simufilam was ineffective in improving the primary biomarker end point and showed high variability in other biomarkers. However, Cassava Science had these samples bioanalyzed again and the data were finalized in

an academic lab, which apparently refers to Dr. Wang. This re-analysis showed that simufilam rapidly and robustly improved a wide array of CSF biomarkers. Whereas Cassava has not fully published this reanalysis, Cassava's 26 July 2021 poster presumably describing aspects of that work shows signs of data manipulation.

- The integrity of western blot analyses: Western blotting was extensively used by Drs. Wang and Burns over the past 15 years to support their foundational scientific claims and underscores their SavaDx clinical plasma biomarker. Detailed analysis of the western blots in the published journal articles from Drs. Wang and Burns shows a series of anomalies. The extent of these anomalies forms a 15-year pattern that strongly suggests systematic data manipulation and misrepresentation.
- The integrity of analyses involving human brain tissue: Simufilam is reported to bind to its target and modify a range of downstream molecules in experiments conducted on post-mortem human brain tissue from subjects with Alzheimer's disease and neurological controls. The same human brain specimens are used across the studies from 2008-2017, so the results are premised on human neurons remaining viable up to 13 hours after death, then being successfully reanimated after nearly 10 years in frozen archival without any advanced cryopreservative techniques. The complex, multi-step cellular processes the authors claim to observe in tissue that has been dead for a decade are contrary to a basic understanding of neurobiology. As with the western blot data, there are anomalies in the presentation of the data which again strongly suggest manipulation.

In the appendix, six additional areas of concern are raised. These frequent errors and anomalies occur in a pattern which is frequently favorable to the authors' hypotheses and is of

sufficient magnitude to strongly suggest scientific misconduct. This scientific work is foundational to the link between simufilam and its supposed target Filamin A in AD. Consequently, urgent action is advisable to limit patient exposure to this drug, until an appropriate investigation is completed.

Finally, we make six specific recommendations:

- The NIH and CUNY should audit the publications and lab of Dr. Wang to determine the existence and extent of data manipulation and possible fraud in all papers and grant applications from Drs. Wang and Burns.
- The FDA should audit both these publications and the IND application for simufilam's use in AD.
- The FDA should audit all clinical biomarker studies of simufilam in AD.
- The FDA should oversee 3rd party reanalysis of all clinical biomarker studies of simufilam in AD.
- The FDA should pause ongoing trials with simufilam pending these investigations.
- The academic journals which published the studies discussed herein should review and retract them to correct the public record, if the concerns remain after adequate investigation.

B. Background

This letter details a long-standing pattern of seemingly intentional data manipulation and misrepresentation in scientific papers and corporate disclosures authored primarily by Drs. Hoau-Yan Wang, Associate Medical Professor, City University of New York, and Lindsay A Burns, Sr. Vice President of Neuroscience at Cassava Sciences. All the information detailed herein was obtained from public, non-proprietary sources. These apparent falsifications have helped garner

>$5,000,000 in NIH grants for preclinical/clinical studies, attract >$250,000,000 in public fundraising by Cassava Sciences and misdirect therapeutic studies for patients suffering from Alzheimer's Disease (AD). In the interest of **the safety of patients with Alzheimer's disease enrolled in Cassava Sciences' ongoing clinical trials**, as well as the NIH and other stakeholders, the biomedical and financial communities must be made aware of these apparent falsehoods. The laboratory of Dr. Wang and Cassava Sciences warrant an audit to comprehensively evaluate the integrity of the scientific data.

For >15 years, Dr. Wang has collaborated with Cassava Sciences, formerly known as Pain Therapeutics Incorporated (PTI). Cassava Sciences is developing simufilam, a drug which was initially designated PTI-125, as a disease modifying treatment for Alzheimer's disease. Simufilam is claimed to bind to bind a cytoskeleton-associated protein called Filamin A and thereby benefit a range of Alzheimer's disease related neuropathologies. This line of research is unique to Dr. Wang and Cassava Sciences.

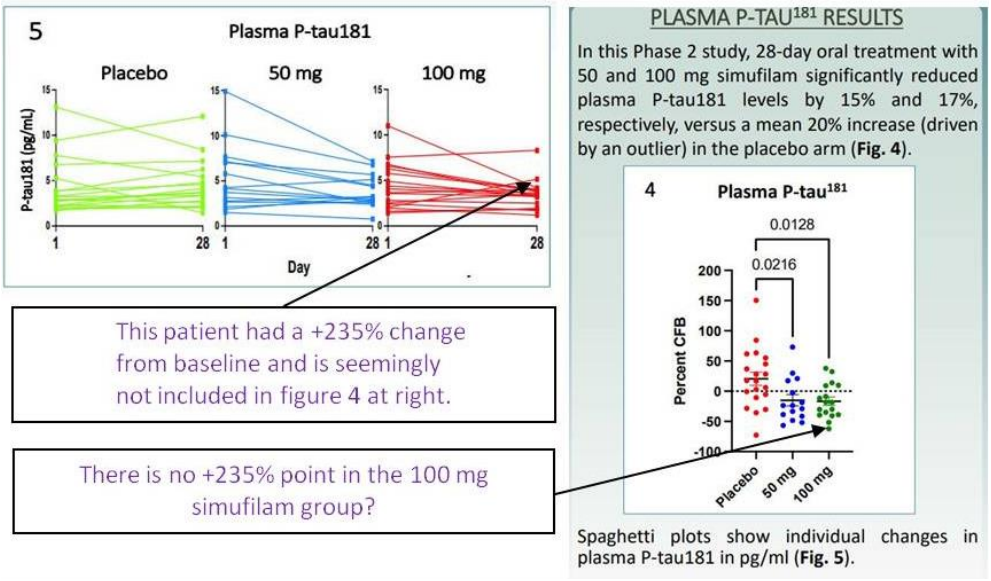
In reviewing this work, several results were encountered that are most unexpected and are probably unique to Drs. Wang, Burns and Cassava Sciences. Consequently, we investigated the published journal articles and other public sources of data underlying the development of simufilam in greater detail. This initial analysis suggests a pattern of clear errors and anomalies that are consistent with data manipulation and misrepresentation. These findings undercut the foundational science on which simufilam therapy is based.

C. Major Concerns

C.1. Concern #1: Integrity of Clinical Biomarker Data

NIH STTR grants (AG057329 & AG060878) funded Cassava Sciences' double-blind placebo-controlled phase II trial of PTI-125 (50, 100 mg QD) in 64 AD patients (NCT04079803). The primary end points reported were changes from baseline (day 1 to day 28) for a series of CSF

biomarkers including Abeta42, total tau, P-tau181, neurogranin, neurofilament light chain, and YKL-40. **On 15 May 2020, Cassava Sciences reported that this study missed its primary end points**. However, on 14 September 2020, Cassava Sciences reported that bioassays done by an external group were in error, and that **when patient samples were retested and finalized in what we believe to be Dr. Wang's lab, PTI-125/simufilam was claimed to robustly improve all biomarkers**.



On 26 July 2021, Cassava Sciences presented a poster at the Alzheimer's Association International Conference entitled "SavaDx, a Novel Plasma Biomarker to Detect…" regarding their clinical biomarkers. This poster, featuring Dr. Wang as first author, can be found on their corporate website (https://www.cassavasciences.com/company-presentations | "SavaDx, a Novel Plasma Biomarker to Detect Alzheimer's Disease, Confirms Mechanism of Action of Simufilam"). Figures 4 and 5 of this poster describe effects of 28-day treatment with simufilam (PTI-125) on plasma P-Tau181. Figure 4 shows the percent change from baseline (CFB) and figure 5 shows the absolute biomarker values for individuals before and after treatment. However, Figures 4 and 5 cannot be from the same data set. In Figure 5, one patient in the 100

mg group (at the arrow) had a P-Tau181 level which increased from ~1.5 to 5 pg/ml during the 28-day treatment period, ~235% change from baseline. However, in figure 4 there is no data point in the 100 mg treatment groups showing a CFB >40%. If the correct data point (+235%) were averaged in with the other points in figure 4, any beneficial effect of 100 mg simufilam would likely have been negated.

As a side-note, CSF analysis was also performed on the 13 patients in the phase 2a study and was published by Drs. Wang and Burns in early 2020 in the *Journal of Prevention of Alzheimer's Disease* 7;256-264. Remarkably, this manuscript was accepted for publication Nov. 6, 2020 seven days after submission October 31, 2020. If those dates are correct, it seems highly unlikely to have been subjected to rigorous peer review.

These clinical biomarker data present two significant problems. First, it seems that the primary biomarker data set we have with simufilam in Alzheimer's disease that was entirely produced and finalized by an external lab found that the drug had no effect on clinical biomarkers. Cassava replaced this with a reanalysis that was finalized by an academic lab (presumably Dr. Wang) and showed that simufilam showed remarkable benefit. Second, plasma biomarker data from these same patients, which were just presented by Cassava Sciences, contains evidence of manipulation. If there's no biomarker signal, and there is apparent misrepresentation of clinical data the **continuation of the ongoing Cassava trials may put patients at risk without the claimed evidence of biomarker benefit**. All the clinical biomarker results should be audited and replicated by an independent third party.

C.2. Concern #2: Integrity of Western Blot Data

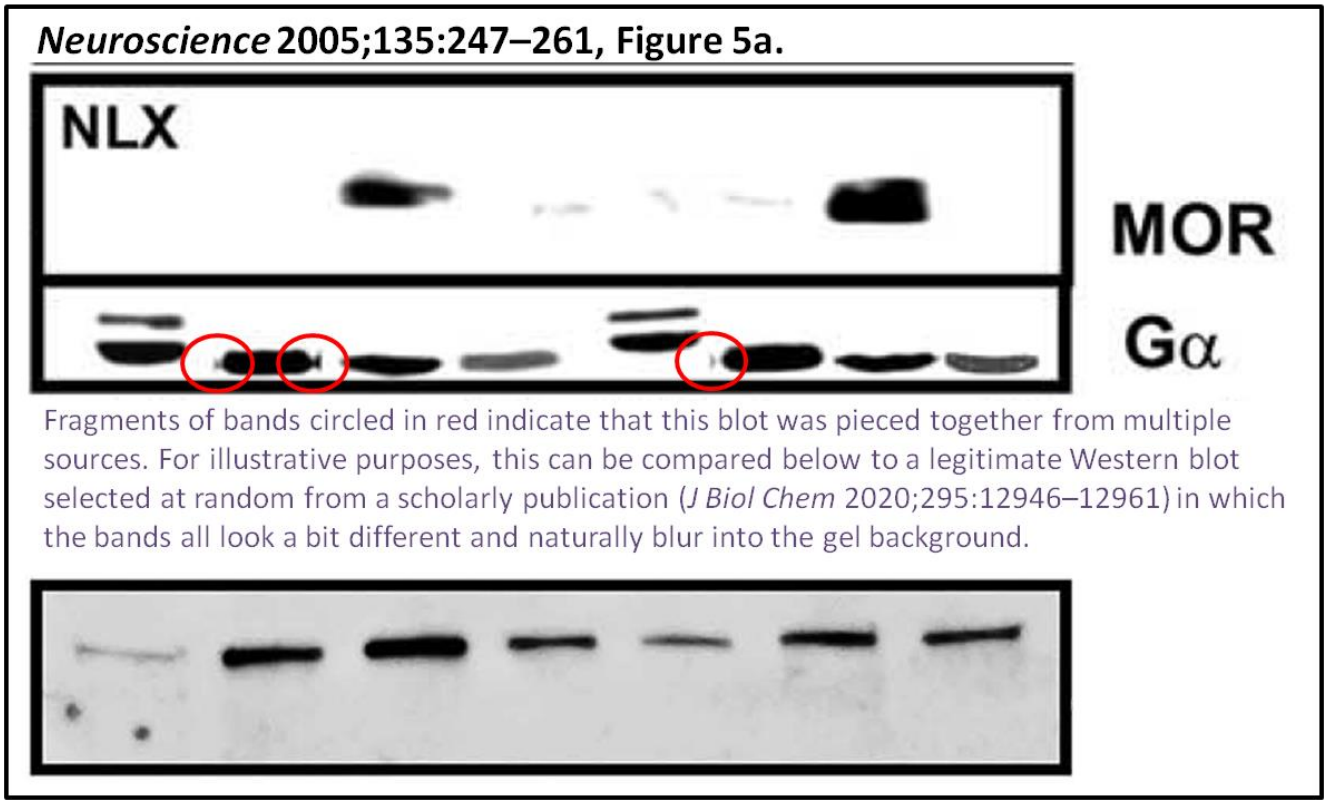
Many experiments in the work by Drs. Wang and Burns involve western blotting. Using this technique, proteins from tissue samples are separated on "gels" in a series of vertical lanes; the proteins are then transferred to a paper-like membrane, and antibodies are used to detect

specific proteins on the membrane, producing an image of specific proteins or "bands".

Each band generally has a slightly different shape. As noted in an article posted on Retraction Watch about data manipulation and focused on Western blots (https://retractionwatch.com/2016/04/19/one-in-25-papers-contains-inappropriately-duplicated-images-screen-finds/), "In Western blots, every band has their own characteristics, they're like faces." That article further noted the significant number of cases of inappropriately duplicated or manipulated Western Blots: "… in no way suggest that Western blotting is a flawed method. Indeed, it suggests that Western blots are harder to fake in an undetectable way than other experimental data." The western blot data presented by Wang and Burns are almost always overexposed and highly processed, which has been repeatedly seen in previously reported examples of image manipulation. In the following sections, we present a series of examples with strong evidence of image manipulation. In the appendix, we include additional examples which raise red flags.

C.2.1. Example #1: Manipulated Western Blot; *Neuroscience* 2005,135:247-261 – Figure 5a.

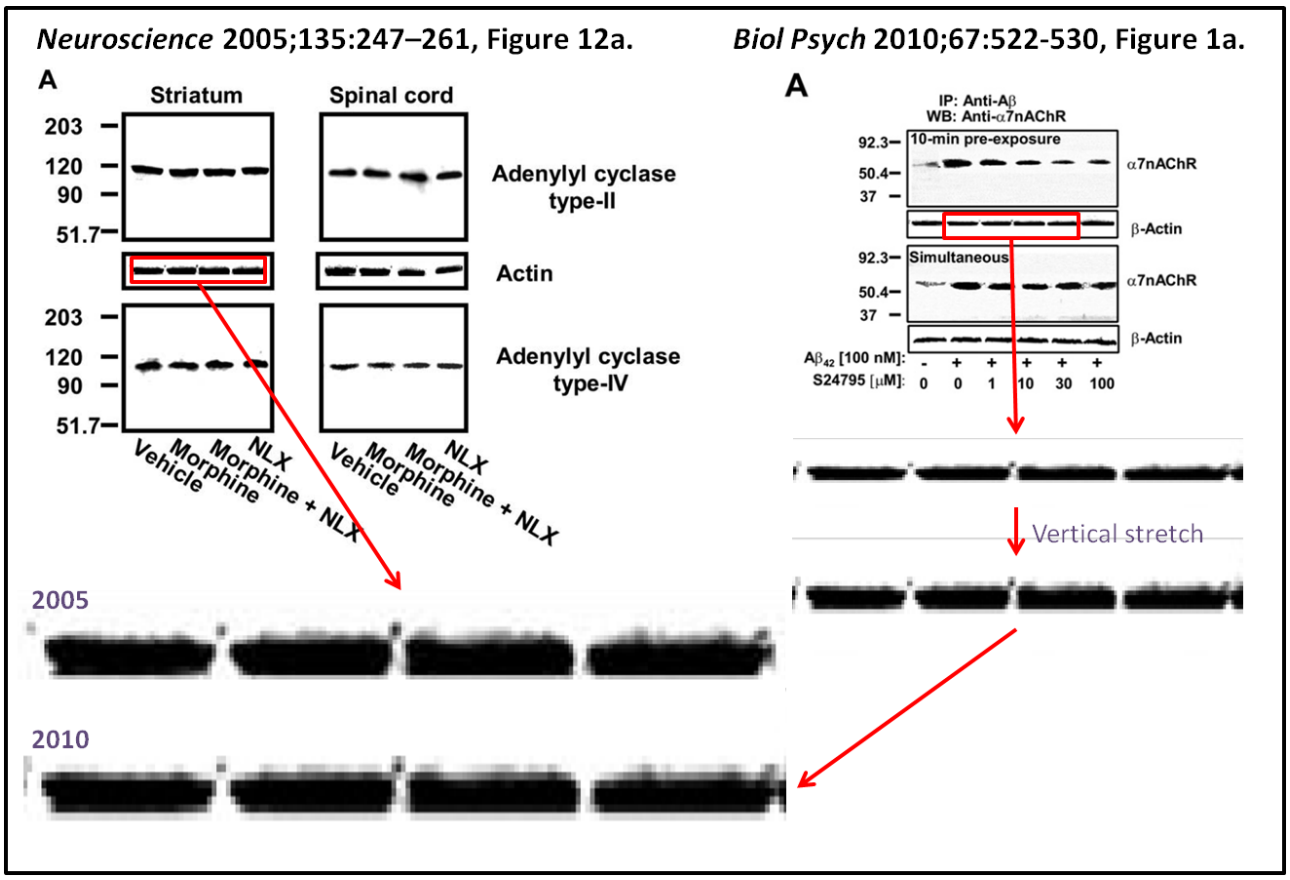
In figure 5a of their 2005 paper *Neuroscience* 135;247–261, the authors appear to have "spliced together" gels from different experiments. Telltale signs that the Gα bands in Figure 5a likely come from different gels are circled in red below. The cropped borders of an adjacent protein band are present indicating the bands were taken from another blot.



C.2.2. Example #2. Falsified Western Blot; *Biol Psych* 2010,67:522 – Figure 1a.

The western blot in Figure 1a (below right) of Dr. Wang's 2010 paper in *Biological Psychiatry* 67:522 contains four bands that closely resemble an image published in Figure 12a (left) of the Wang and Burns 2005 *Neuroscience* 135: 247 paper mentioned in C.2.1. These eight boxed bands come from different experimental conditions that were allegedly conducted many years apart, using different samples. The authors appear to have vertically compressed the bands

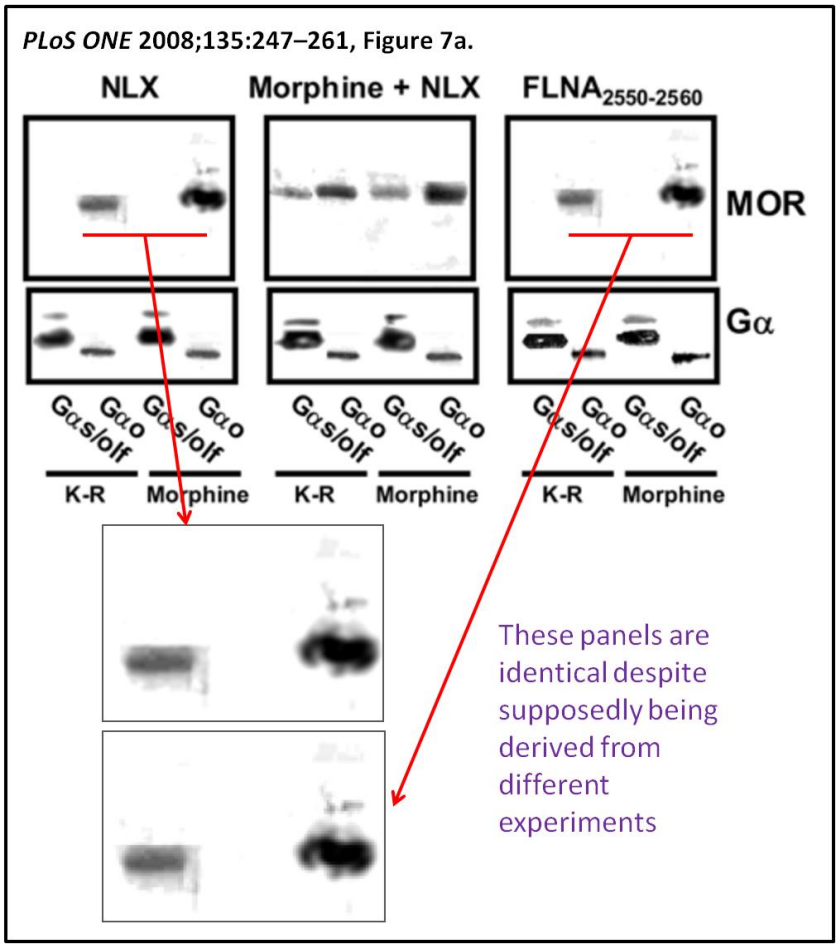
in the 2010 paper, but expanding them here shows they are strikingly similar to those in the 2005 paper. As the sample passes through the gel, it creates a small amount of streaking which causes a distinctive irregular shape in the upper portion of each band; the pattern of this streaking is identical in the two images. This degree of congruence could not have occurred by chance or error; it suggests a complex cross-publication dimension to Cassava Science's band duplication behavior and, in this case, it is hard to imagine that the duplication was not intentional. It is recommended that the original full-length images **with appropriate molecular weight markers are obtained to validate band migration** from both the 2005 and 2010 papers for independent review. Because of the seriousness of this duplication, if the original materials are not available, both of these papers must be retracted.



As a side-note, this western blot was produced on x-ray film, not as a digital image.

C.2.3. Example #3: Reused/Misrepresented Western Blot; *PLoS ONE* 2008;3:e1554 – Figure 7a.

In their 2008 paper *PLoS ONE* 3:e1554, Drs. Wang and Burns again present a series of overexposed and selectively cropped gels that appear to show spliced experiments (i.e., two separate experiments combined as if they were done simultaneously). Suggestive signs include the sharp upper and right border for the band in the Gαo lane (lane 2 from the left in both panels; light blue dashed boxes). Further, Figure 7a of that paper appears to show two IDENTICAL panels (red arrows) for what are reported as different experiments. The similarity in these images could not have occurred by chance. All original full-length gel images **with appropriate molecule weight markers to validate band migration,** from this paper should be requested and analyzed. If they are not available, this paper should be retracted.



C.2.3. Example #4: Band Insertion Into Western Blots. Numerous publications.

The foundational paper from Drs. Wang and Burns that links Filamin A and PTI-125 to Alzheimer's disease is *The Journal of Neuroscience*, 2012 32:9773–9784. This paper appears to contain a collection of questionable western blots. Most of the paper comprises western blots that are of low quality, over exposed and selectively cropped. In this paper, the authors appear to have duplicated and transposed bands. There are dozens of questionable image features in this paper, only a small sampling is presented here. Numerous additional examples of this pattern of behavior in other manuscripts are included in the appendix.

In Figure 1a, the four Filamin A bands in the top set are more similar to each than can be expected by chance and appear to be duplicates. The images at right are magnified, showing that the pixels containing the bands are essentially identical. Additionally, the blots are not aligned and the spacing is irregular. Because FLNA is a large protein (~290kDa), it does not migrate in the gel very far; therefore, this degree of misalignment is suspicious. Moreover, the thin white halos surrounding each band are concerning. There are optical reasons why a halo (or ringing artifact) could occur, but this artifact is most common when components from multiple images are combined using photo editing software. This halo artifact is more prominent in the questionable blots, and extends in some cases into the frame around the blot which is hard to explain as an optical phenomenon.

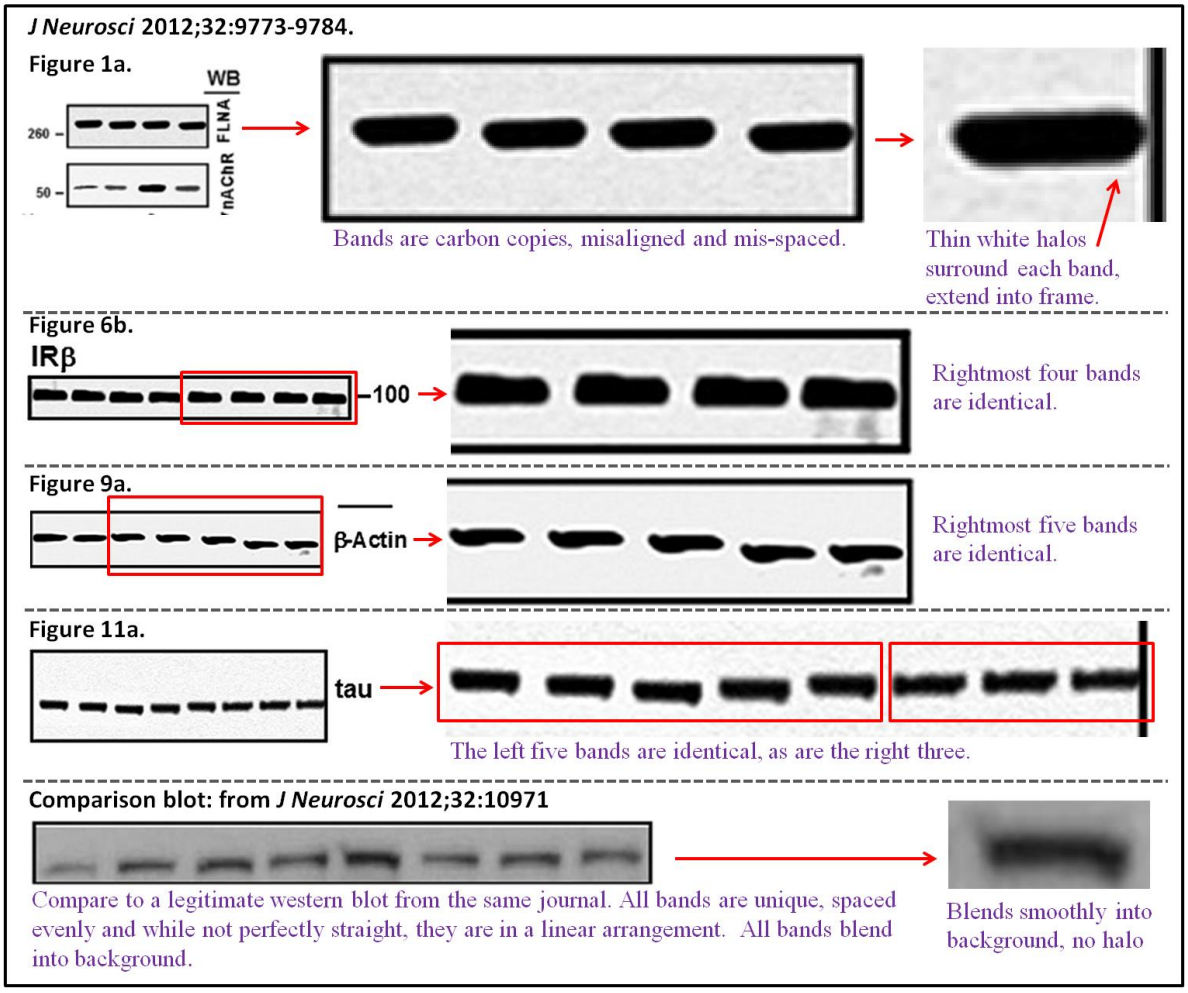


Figure 6b: The four rightmost bands appear to be identical to each other. This degree of similarity is unlikely to occur by chance.

Figure 9a: The five rightmost actin bands have a distinctive shape, but are nevertheless identical to each other. That these bands all have apparently identical "dipper" shapes cannot occur by chance. As above, the thin white border surrounding each band is prominently seen again.

Figure 11a: The five leftmost tau bands appear to be identical to each other, AND the 3 rightmost tau bands appear to be identical to each other. These degrees of similarity are unlikely occur by chance.

There are many other examples that strongly suggest data manipulation in this *Journal of*

Neuroscience paper. Individually, each of these examples is concerning, but together they form a pattern that strongly calls into question the integrity of this publication (and the other publications from these authors with similar patterns of band insertion). The work in question here serves as THE foundational research linking PTI-125 (Simufilam) to Alzheimer's disease. Unless the authors can produce full length unaltered gels with appropriate molecule weight markers to validate band migration, for all experiments in this paper, it should be retracted.

Importantly, data in this paper were part of the package used to garner NIH grant AG060878 and open an FDA investigational new drug application to study PTI-125 (Simufilam) in Alzheimer's disease patients.

C.3. Concern #3: Integrity of Analyses Involving Human Brain Tissue

C.3.1. Implausibility of Reported Pharmacology in Postmortem Human Brain Tissue.

PTI-125/Simufilam is reported to bind to Filamin and alter its conformation. In so doing, it allegedly blocks the interaction between β-amyloid and the α7-nicotinic acetylcholine receptor. This supposedly modifies a range of downstream molecules and signaling pathways including NMDA signaling, Toll-like receptor signaling (causing an anti-inflammatory effect) and decreasing tau phosphorylation.

This is a complex mechanism. In one key line of experiments, the authors report that this entire mechanism can be observed in post-mortem human brain tissue from subjects with Alzheimer's disease and neurological controls. This data is contained in *Neurobiology of Aging* 2017;55:99-114. This builds on similar experiments in *The Journal of Neuroscience* 2009;29:10961-10973 and *The Journal of Neuroscience* 2012;32:9773-9784.

In these experiments, post-mortem human brain tissue is warmed from -80°C to -20°C and chopped into 200micron x 200micron x 3mm blocks with a McIlwain chopper (as a side note, a McIlwain chopper doesn't effectively cut frozen tissue). The resulting chopped tissue is treated with β-amyloid and the experimental drug for 1 hour. They then report a massive increase in tau phosphorylation (modification of the tau protein by enzymatic addition of a phosphate group to the protein; up to 10 fold) from β-amyloid treatment in untreated samples; and that tau phosphorylation was blocked by addition of PTI-125. It is unlikely that the enzyme responsible for phosphorylation would survive the initial -80°C freezing step. Moreover, the phosphorylation experiments are reported to have been performed at 4°C, but it is unlikely that the enzyme responsible for phosphorylation would be active at 4°C (enzymes generally work best at body temperature—37°C).

In a similar experiment, NMDA-receptor signaling was evaluated after incubating minced human brain from patients with AD and neurological controls with NMDA/glycine along with β-amyloid and the experimental drug for 1 hour. NMDA signaling was reported blocked by β-amyloid and in AD and rescued in both cases by the experimental drug. For similar reasons, these reported results are unlikely.

The methodology for the post-mortem human brain experiments among the three studies are virtually word-for-word identical. The age and post-mortem interval for the groups of subjects are the same (down to the decimal points) in each of the three papers. It is therefore reasonable to assume the same human brain specimens were used across the studies from 2008-2017, so the results are premised on the enzymes in the human brain extracts remaining active up to 13 hours post-mortem before freezing, remaining active after nearly 10 years in frozen archival without any advanced cryopreservative techniques, and being active at 4°C.

Importantly, the authors report that there was a marked, rapid increase in the Arc protein observed as evidence of NMDA receptor activity with this approach. The suggestion is that post-mortem human brain tissue, frozen for a decade, thawed and chopped, (1) has intact NMDA receptor signaling, (2) is able to transmit that signal to the cell body through an intact dendrite, (3) has the functioning cellular apparatus to rapidly produce the Arc protein and (4) enough intact neurons are present to mediate a >4 fold rise in Arc levels in this tissue. In reality, neurons in the human brain do not survive extended post-mortem intervals and long-term freezing.

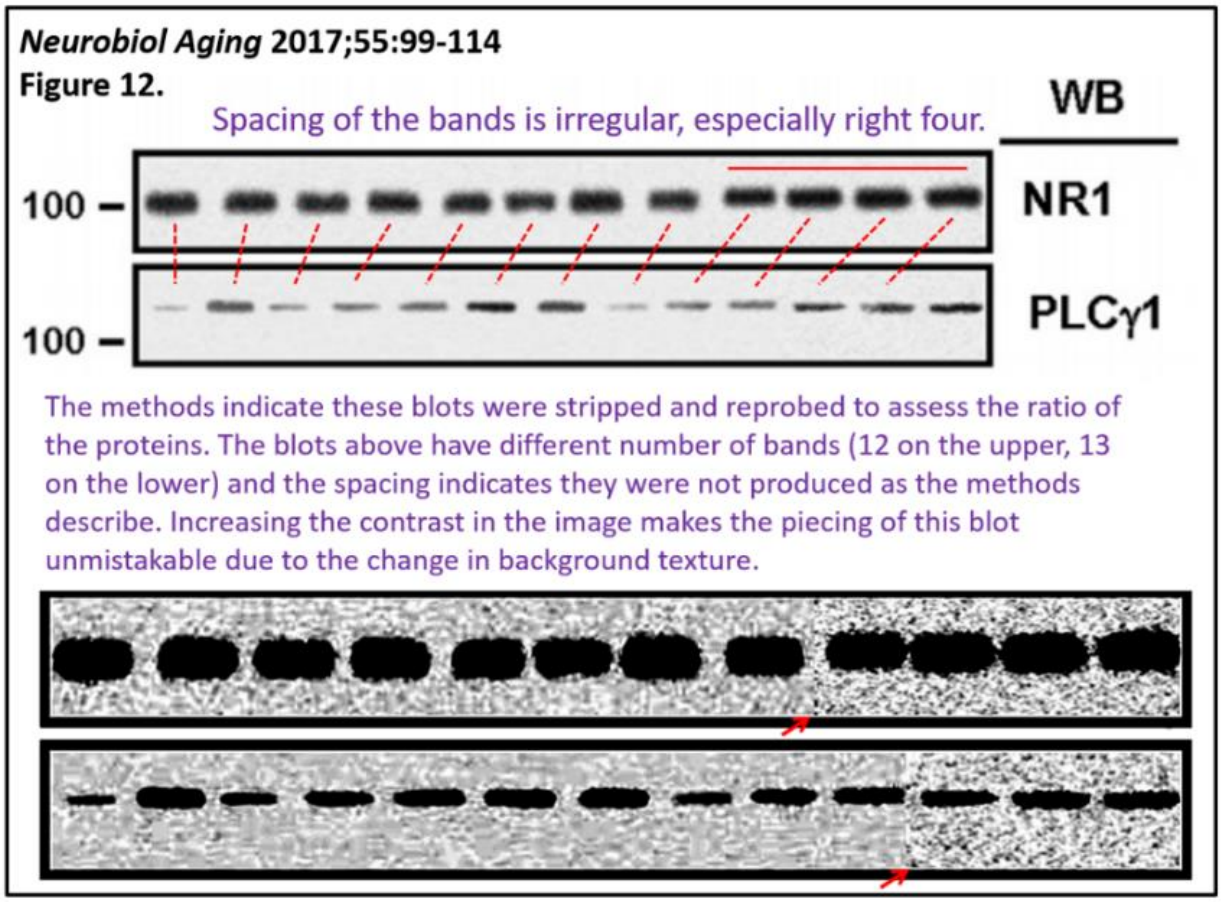
The complex, multi-step cellular processes the authors claim to observe in tissue that has been dead for a decade are contrary to a basic understanding of neurobiology. Claims of this magnitude require extensive, detailed verification, but the authors provide no evidence of tissue

viability. We are not aware of any other research group which has effectively used this technique. As with the western blot data, there are anomalies in the presentation of the data from this human tissue, which again strongly suggest manipulation.

C.3.2. Evidence of Manipulation in Data from Human Tissue

Figure 12 of *Neurobiology of Aging* 2017;55:99-114 uses Western blotting to support their conclusion that PTI-125 improves NMDAR (NR1) function. Their analysis includes a normalization step. In figure 12a (top portion), the NR1 blot that that is used for normalization contains 12 bands whereas all the other blots in this figure contain 13 bands.

Also, the NR1 bands show different spacing than do bands in the PLCγ1 blot, **which strongly suggests that the NR1 and PLCγ1 Western blots could not have derived from the same gel**. This directly conflicts with the author's claim in the method section of this paper that, "Proteins were transferred to nitrocellulose membrane and the levels of PSD-95, and signaling proteins were measured using Western blotting with specific antibodies for PSD-95, nNOS, phospholipase C-γ1, protein kinase C, pY402PyK2, and pY416Src. *Blots were stripped and reprobed with anti-NR1 to assess loading.*" The italicized sentence indicates that the gel membrane was analyzed for PLCγ1, and the same membrane was re-analyzed for NR1. This process does not introduce or remove band lanes.



Another major problem with the 12-band blot is that the spacing of the bands is irregular. This is particularly obvious on the right half (lanes 7-12). This asymmetry in band spacing is incompatible with the regular shape of the combs used for gel loading. Therefore, the 12-band blot was almost certainly pasted together from different sources. Further evidence that the bands likely derive from different sources is apparent when the contrast of the image is adjusted. As shown in the magnified panels in the figure below, in the NR1 (top row) there is a sharp contrast between the background for the leftmost 8 bands and the background for the rightmost 4 bands, marked with a red arrow. In the magnified panel for PLCγ1 (bottom row), there is also evidence of splicing. Again, the red arrow denotes a sharp background contrast between the leftmost 9 bands and the rightmost 3 bands.

For these reasons, the primary data for this paper should be audited. If the primary data

do not support the authors' highly unlikely claims, the paper should be retracted. These questionable experiments used donated cadaveric human tissue, which, if the experimental data are shown to be manipulated, is a particularly egregious ethical transgression.

D. Implications and Recommendations

In summary, it appears that Drs. Wang and Burns in published PubMed indexed manuscripts and through disclosures with Cassava Sciences have misrepresented preclinical and clinical research results for more than 15 years. This initial examination of their published western blots identified many dozens of examples of protein bands that appear to have been duplicated and/or misrepresented, a Western blot that was used twice to represent different experimental conditions, and a normalization blot that appears to have been manually constructed. Some bands appear to have been "reused" in papers concerning different research topics that were published five years apart.

The volume of problematic material uncovered in publicly available sources indicates a thorough audit would likely unveil significant additional scientific misconduct and data manipulation. It is essential that the scientific team behind Cassava Sciences' Simufilam provide the original blots with molecular weight markers to validate these published papers and clinical biomarker data, which include SavaDx.

It is worth repeating, the preclinical and clinical foundations linking Filamin A to Alzheimer's disease derive only from the publications of Drs. Wang and Burns. As shown above, ALL of these papers have evidence of apparent intentional scientific misrepresentation. Cassava Sciences' Alzheimer's disease clinical biomarker data with PTI-125/simufilam showed no evidence of efficacy when tested by an outside lab, and only showed apparent efficacy when re-analyzed in an academic lab—likely Dr. Wang's lab as he is listed as the first author on the

poster (26 July 2021) describing the re-analyzed data. Now, Cassava Science's 26 July 2021 analysis of clinical biomarker results with PTI-125/simufilam also shows evidence of data manipulation.

Finally, the methodology allegedly used to evaluate the function of simufilam in postmortem human brain tissue defies logic and the data presented again have clear hallmarks of manipulation.

In the interests of the NIH, Main Street investors, and most importantly Alzheimer's disease patients, **especially those currently taking simufilam in Cassava Sciences clinical trials**, the issues noted above should be investigated with expediency.

Again, we make six specific recommendations:

- NIH and CUNY should audit the publications and lab of Dr. Wang to determine the existence and extent of data manipulation and fraud in all papers and grant applications from Drs. Wang and Burns.
- The FDA should audit both these publications and the IND application for simufilam's use in AD.
- The FDA should audit all clinical biomarker studies of simufilam in AD.
- The FDA should oversee 3rd party reanalysis of all clinical biomarker studies of simufilam in AD.
- The FDA should pause ongoing clinical trials with simufilam immediately pending these investigations.
- The academic journals which published the studies discussed herein should review the manuscripts and retract them to correcdt the public record, if the concerns remain after adequate investigations.

In particular, there are six papers that require close scrutiny:

- Wang et al. J Prev Alzheimers Dis. 2020;7(4):256-264
- Wang et al. Neurobiol Aging. 2017 Jul;55:99-114
- Wang et al. J Neurosci. 2012 Jul 18;32(29):9773-84
- Wang et al. Biol Psychiatry 2010;67: 522
- Wang, Frankfurt and Burns PLoS One. 2008 Feb 6;3(2):e1554
- Wang et al. Neuroscience. 2005;135(1):247-61

Additionally, the following corporate presentation should be examined:

- (https://www.cassavasciences.com/company-presentations | "SavaDx, a Novel Plasma Biomarker to Detect Alzheimer's Disease, Confirms Mechanism of Action of Simufilam").

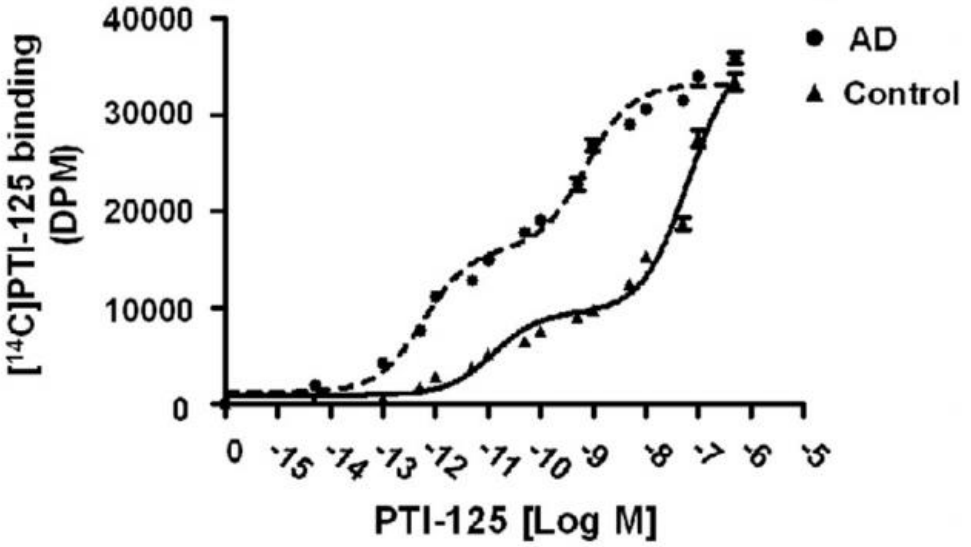
E. Appendix

E.1. Six Additional Areas of Concern

Six further aspects of the research by Drs. Wang and Burns are incompatible with scientific norms, and these claims raise further suspicions. These issues are enumerated below. In addition to the many examples of apparent Western blot manipulation and clinical data misreporting noted above, a number of additional western blots are included at the end of this appendix which raise additional red flags.

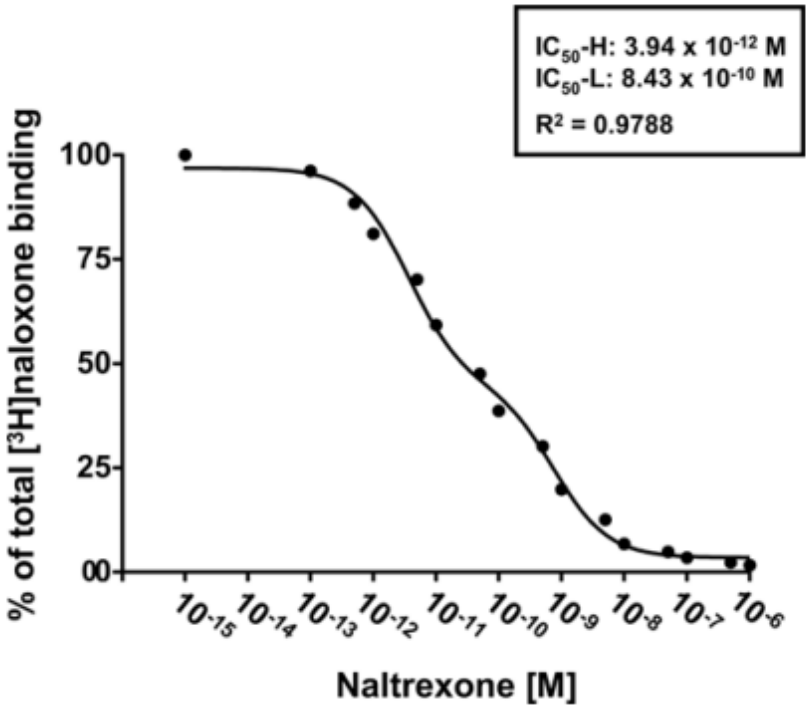
<u>Suspicious Claim #1</u>: Remarkably High Affinity Binding Between PTI-125 and Filamin A

Figure 1B (below) in the *Neurobiology of Aging* 2017;55:99-114 paper claims that PTI-125 has *femtomolar* binding affinity for filamin A in Alzheimer's disease brain. There is scant precedent for a small molecule to bind so potently to a cytoskeletal protein. The claimed affinity seems higher than that of any other small molecule binding to any cytoskeletal protein. Figure 1b in this paper also shows that PTI-125 displacement occurs over 7 orders of magnitude. This "shallow" displacement is highly unusual/unprecedented. An experienced pharmacologist could advise that this is suspicious / implausible. The authors should be asked for the raw data.



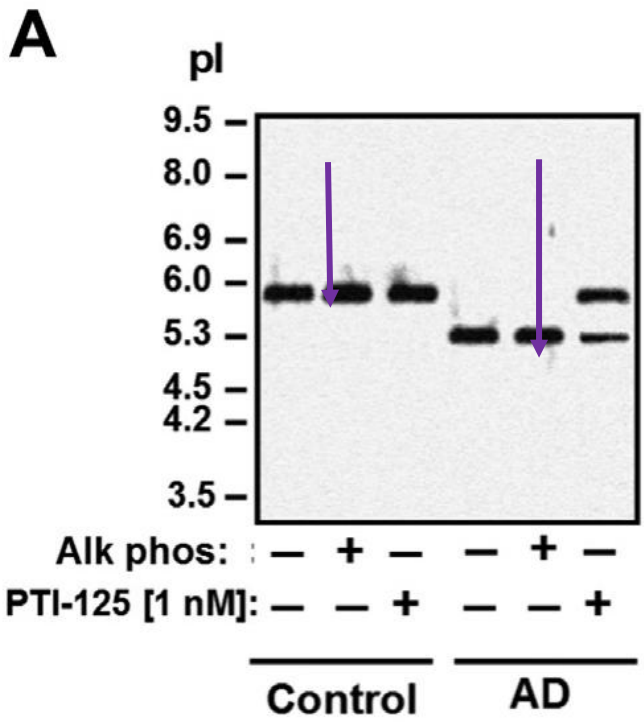
Suspicious Claim #2: Remarkably High Affinity Binding Between Naloxone and Filamin A

Naloxone is an old and intensively studied drug that binds with nanomolar affinity to opiate receptors. Figure 3 (below) of the *PLoS ONE* 2008;3:e1554 paper claims that Naloxone [^{3}H]NLX binds with low *picomolar* affinity to Filamin A. As Filamin A is present in brain, it is puzzling why previous studies have not reported picomolar binding affinity for naloxone in brain. Also unusual is the "shallow" displacement curve in figure 3 that spans 4-5 orders of magnitude. An experienced opiate receptor pharmacologist could advise that this figure is suspicious / implausible. The authors should be asked for the raw data.



<u>Suspicious Claim #3</u>: Isoelectric Focusing Experiments in Multiple Papers Indicate 100% of Filamin in Altered Conformation in Alzheimer's Disease and largely Restored to Correct Conformation by PTI-125

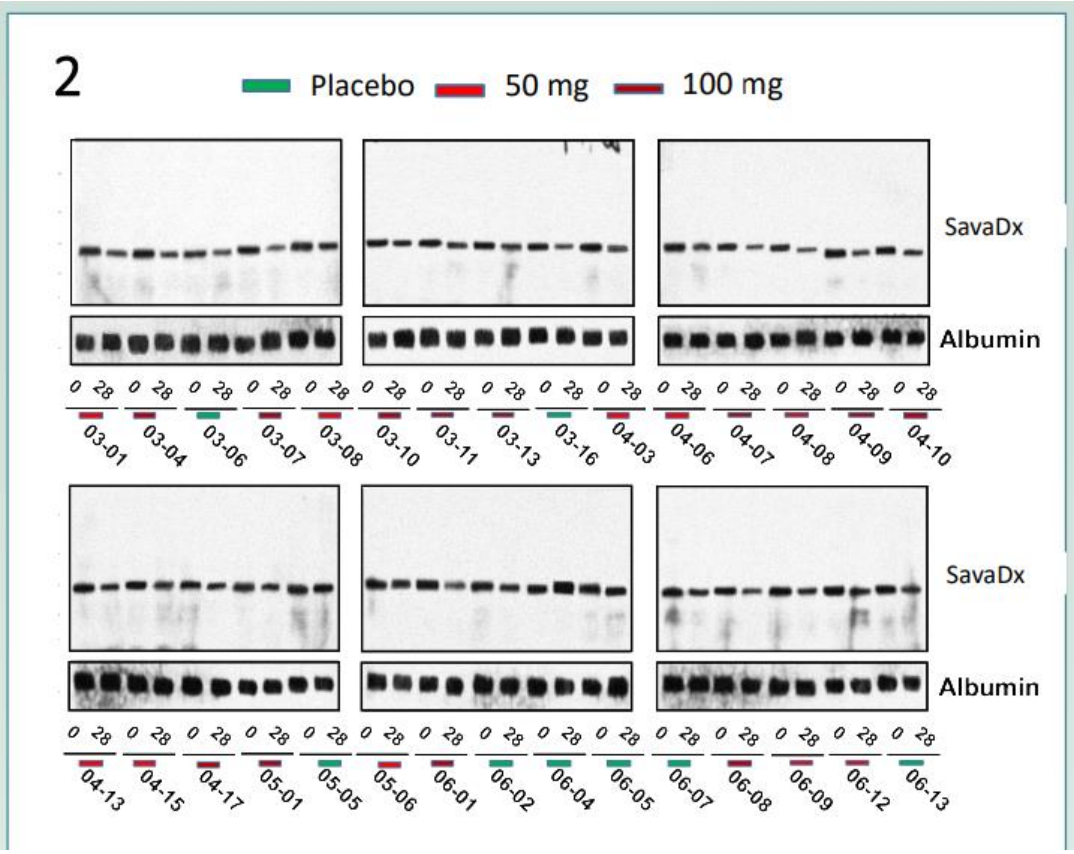
In Figure 2 (below) of the 2017 Neurobiology of Aging 2017 55:99-114 paper, the authors present a gel showing that Filamin A isoelectric point shifts from 5.9 in control to 5.3 in Alzheimer's disease (purple arrows for lanes 1 and 4). This is suspicious for two reasons. First, Alzheimer's disease affects only a small subset of neurons in a diseased brain, so it is scientifically unclear how 100% of Filamin A could shift. Second, isoelectric focusing gels do not typically "look" like the image below. Especially for a 290 kD protein like Filamin A, one would not expect such crisp bands in isoelectric focusing. An experienced biochemist could advise that this figure is suspicious / implausible. This is especially suspect considering the apparent pattern of band manipulation by Drs. Wang and Burns on Western blots. Similar experiments are shown in other publications. The authors should be asked for the raw data.



<u>Suspicious Claim #4</u>: Novel Blood Diagnostic SavaDx Represents Plasma Filamin A Level

Figure 2 (below) in the Cassava Sciences July 26, 2021 poster presentation at AAIC is a collection of Western blots showing that treatment of Alzheimer's disease patients with simufilam lowers their plasma levels of "SavaDx", which the poster defines as "i.e. altered Filamin A levels". Owing to how large (290 kD) proteins run on gels, an experienced biochemist would advise that the blots in figure 2 likely do not represent the 290 kD protein Filamin A. The poster oddly labels the bands as "SAVA Dx" even though they define them as "i.e. altered Filamin A levels".

Considering all of the apparently manipulated western blots in papers from Drs. Wang and Burns, this is particularly suspect. The original blots for this figure should be audited for authenticity.



Suspicious Claim #5: PTI-125/Simufilam Improves Memory in a Mouse Model of Alzheimer's Disease

In *Neurobiol* Aging 2017;55:99-114, figure 9 shows a pre-clinical study of simufilam in a mouse model of AD and misinterprets the data as showing "improvements in memory." It is dubious that any legitimate experiment approximating the methodology described could yield the reported result.

For instance, the third panel (shown below) shows data from a Y-maze which is used to assess memory in mice. Animals are placed in an apparatus made of three tubes which interlock in the middle, like a Mercedes Benz emblem. The test is based on two observations about mouse behavior – (1) when they are put in a new environment, they will explore it and (2) they prefer to explore a new area rather than areas recently explored. After a mouse explores one arm of the y-maze and returns to the center, they must decide which of the other two tubes to enter next. A normal mouse will generally avoid the tube that was most recently explored resulting in a pattern where they spontaneously alternate between each of the tubes. Normal mice would be expected to follow this pattern 70-80% of the time as a rough estimate. If a mouse has memory impairment, the selection of which tube to enter will be random, and the alternation rate should be about 50%. Remarkably, wild type mice and transgenic mice in Wang's study spontaneously alternated less than 20% of the time, which is an atypical result. Drug treatment in 6 month old transgenic mice, increased the rate of alternation to over 30%. This raises a number of issues: (1) this pattern of results is unlikely to occur and suggests, at the least, the experiment was conducted incorrectly, and (2) if the result were legitimate, the drug treatment changing the mice's behavior to closer to 50% spontaneous alternation (i.e., closer to random) would be more accurately interpreted as evidence of *worse* memory performance.

A mouse neurobehavioral specialist would likely advise that there are significant

problems with all of the behavioral and memory data presented in the paper. Importantly, this is the only pre-clinical cognitive/memory data that has been published supporting simufilam's efficacy as a cognitive enhancer. This data should be audited.

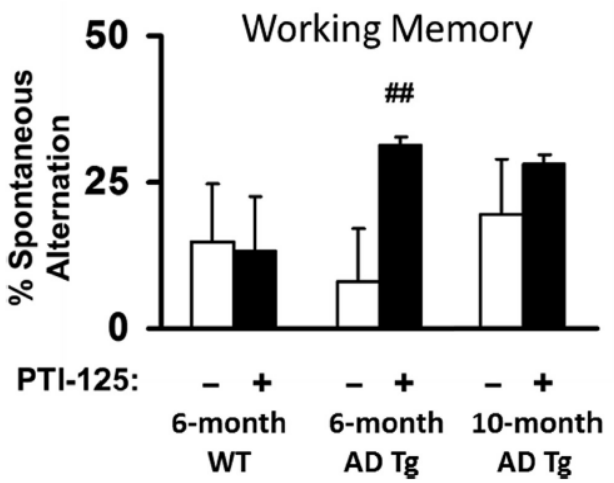
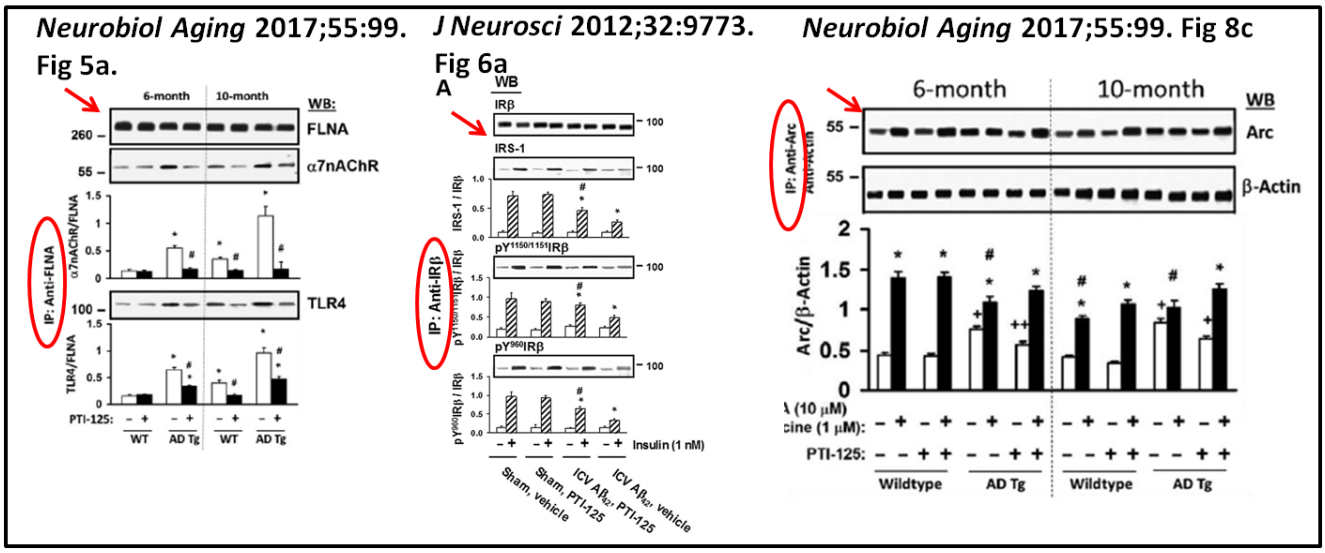


Fig. 9. PTI-125 via drinking water improved nesting behavior in 6-month 3xTg AD mice. Compared to 6-month wildtypes, spatial memory assessed using Y-maze with extra-maze visual cues was impaired in 3xTg AD mice of both ages but not in 3xTg AD mice of either age treated with PTI-125. Additionally, PTI-125 significantly improved spatial memory in 10-month 3xTg AD mice. PTI-125 significantly improved working memory assessed by Y-maze spontaneous alternation paradigm in the 10-month but not 6-month 3xTg AD mice. $n = 5$. $^{*}p < 0.01$, $^{**}p < 0.05$ versus 6-month-old vehicle-treated wild-type group; $^{\#}p < 0.01$, $^{\#\#}p < 0.05$ versus respective vehicle-treated group. Abbreviations: AD, Alzheimer's disease; 3xTg, triple-transgenic.

<u>Suspicious Claim #6</u>: PTI-125/Simufilam Blocks the Interaction Between β-amyloid and α7- Nicotinic Acetylcholine Receptors.

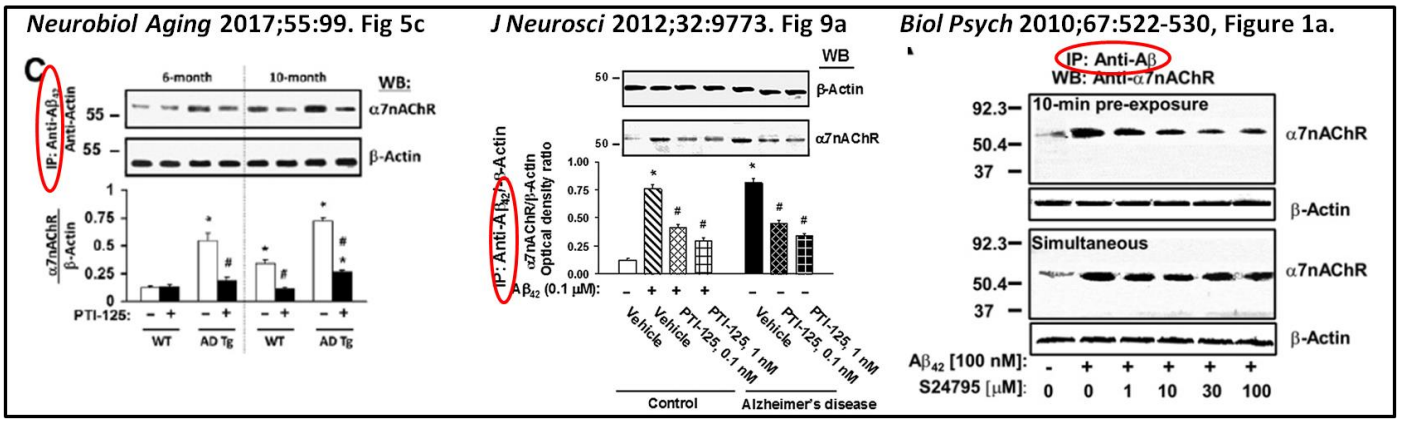
Most of the western blots in these papers take advantage of a process known as co-immunoprecipitation. In this technique, tissue is ground up until it is liquefied and an antibody is used to catch a protein of interest. When the antibody and the protein it binds are isolated, any other proteins that bind to the target protein will also be isolated. This approach enables scientists to evaluate if two proteins interact with each other.

As a standard laboratory practice, the first step in evaluating a co-immunoprecipitation sample is to perform a western blot to confirm that the target protein was captured. It obviously makes little sense to proceed to analyze other proteins, if the target protein was not captured. Drs. Wang and Burns consistently follow this convention. Examples are shown below.

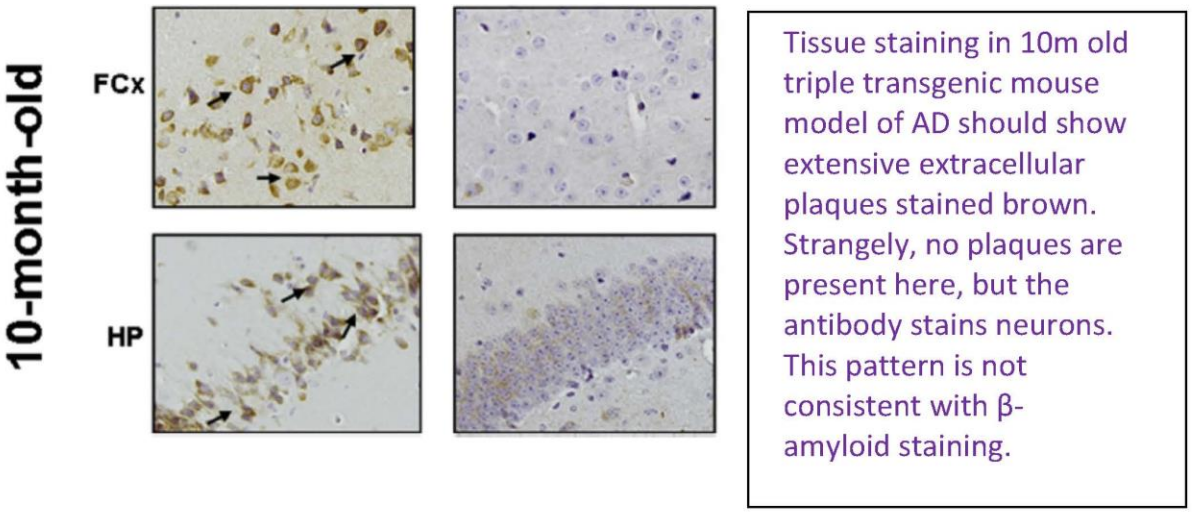


However, there is one exception. The control blot demonstrating efficient capture of the target protein is omitted every time co-immunoprecipitation of β-amyloid is presented. A series of these co-immunoprecipitation experiments is shown below, each omitting this necessary blot. There are numerous other examples throughout the publications. The authors used this technique to build the case that β-amyloid interacts with α7-nicotinic acetylcholine receptors. The fact that

they deviated from a standard of practice they strictly follow in other settings is suspicious. It is also noteworthy that a significant fraction of the western blots shown elsewhere in the document to have been manipulated are associated with β-amyloid co-immunoprecipitation experiments (the center and right example in the figure following also contain two of the more-egregious examples of western blot falsification).



The authors appear to have used the same β-amyloid antibody to perform tissue staining in a transgenic mouse model of AD. Despite the authors' claims, this staining does not show any extracellular β-amyloid plaques (see following figure). It is clear that this antibody is malfunctioning in the tissue staining. Consequently, it is reasonable to be concerned that it is non-functional in the co-immunoprecipitation as well.



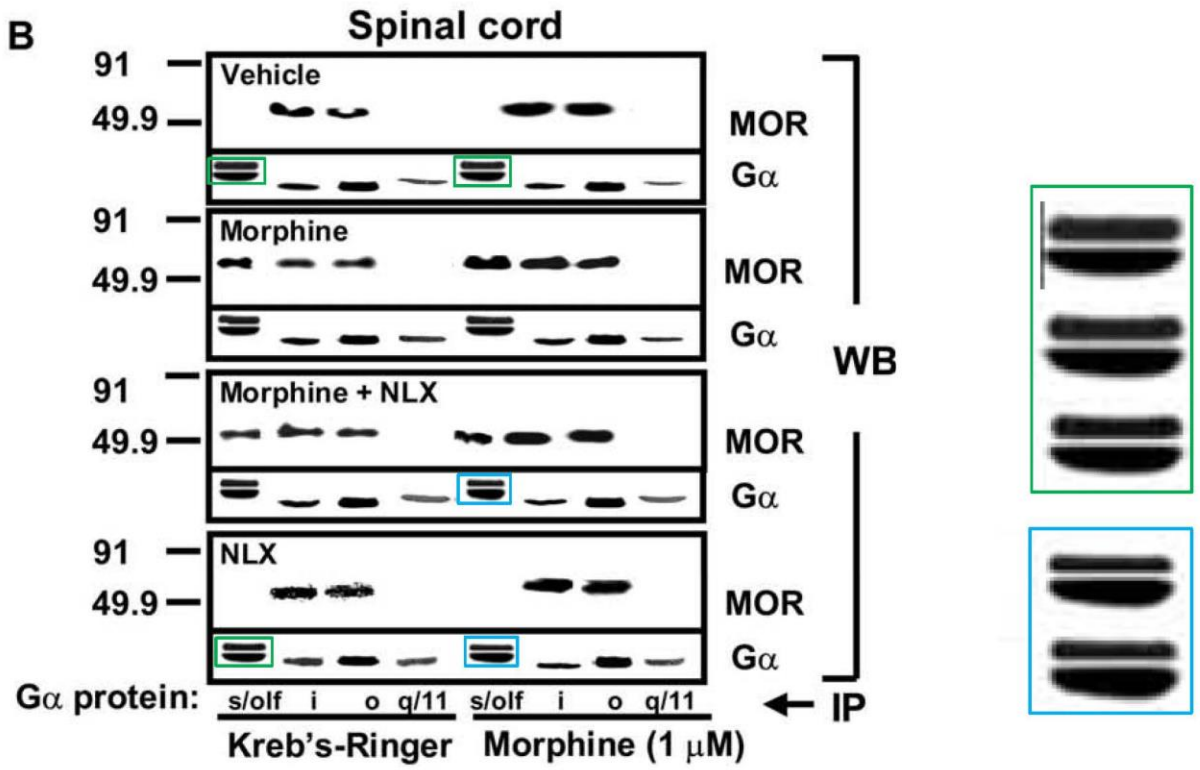
These observations strongly call into question the assertion that PTI-125/simufilam alters the interaction between β-amyloid and any of its supposed targets. The authors should show clear validation of effective immunoprecipitation of β-amyloid in every one of these instances.

E.2. Additional Suspicious Western Blots:

In the 2005 Wang and Burns paper *Neuroscience* 135 247–261, one can see bands with unique features that appear spliced into multiple gels. This suggests that experiments were not conducted as described. One example of this is Figure 5B (below).

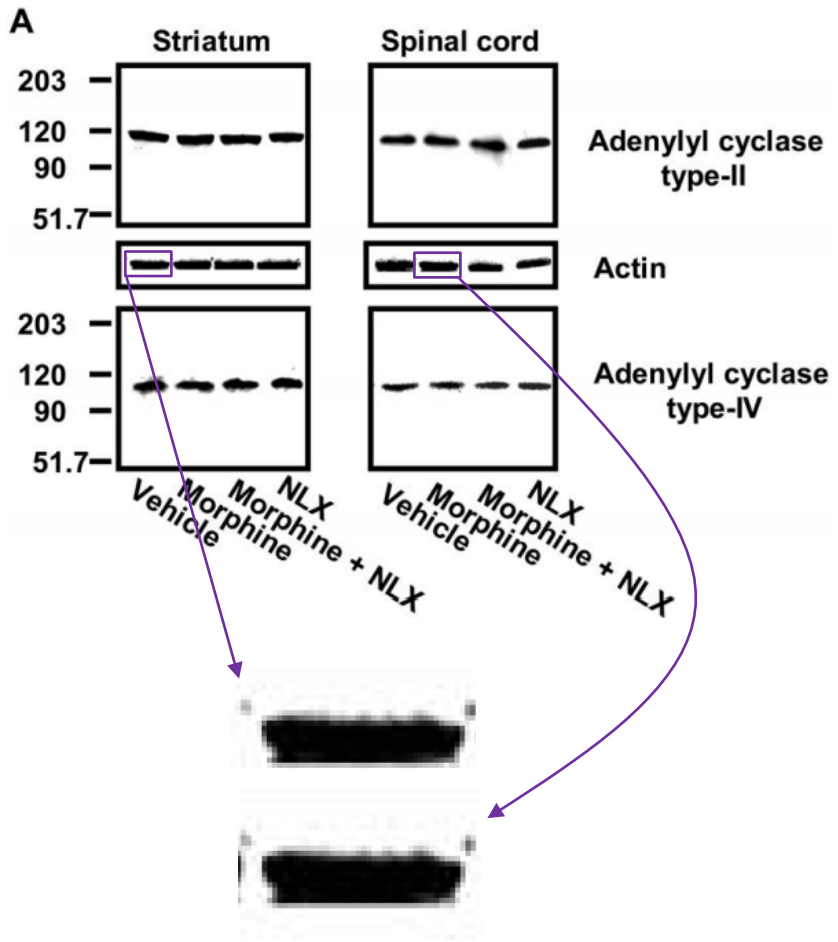
In this Western blot, the Gα bands in the s/olf lanes have peculiar "double decker" shapes. Close inspection reveals that three of these double decker bands (green) are more similar to each other than would be expected AND another two of these double deckers (blue) are also more similar to each other than would be expected.

The congruence of these oddly shaped bands are unlikely to have occurred by chance and raises the possibility of band duplication and data manipulation.



Another striking example of probable band duplication occurs in Figure 12a of this paper. Here, the actin band from the striatum brain region treated with "Vehicle" is indistinguishable

from the actin band from the spinal cord region treated with Morphine. The uncanny resemblance of these "battleship" shaped bands and the precise alignment of the dot artifacts suggest that one or both were intentionally inserted, perhaps with the intention of misrepresenting the results.

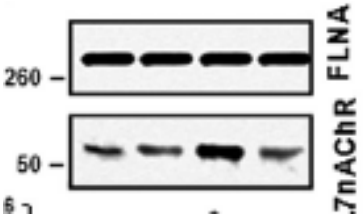


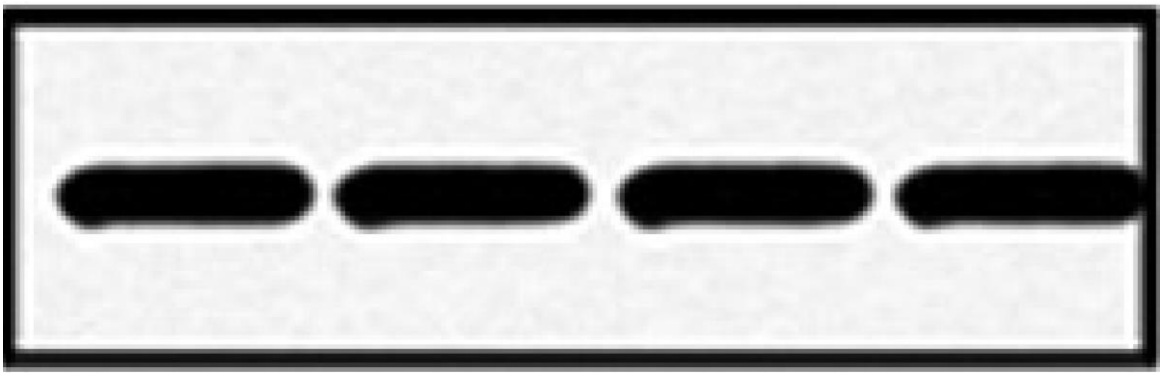
The seemingly identical battleship shape of these protein bands from different

It is recommended that the original full-length images **with appropriate molecule weight markers to validate band migration** from this paper be requested and analyzed. If they are not available, this paper should be retracted.

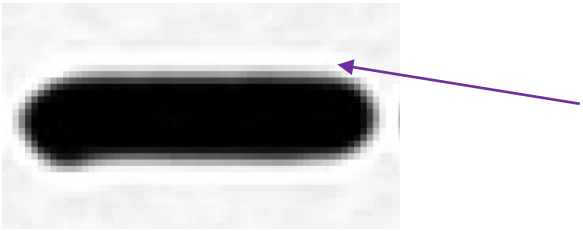
Additional examples of probable band duplication in *J Neurosci* 2012;32:9773-9784.

One can see that the four Filamin A bands in the bottom set of Figure 1A appear to be identical to each other. This degree of similarity is unlikely to occur by chance, and the thin white borders surrounding each band could be due to merging multiple images in a photo editing software.



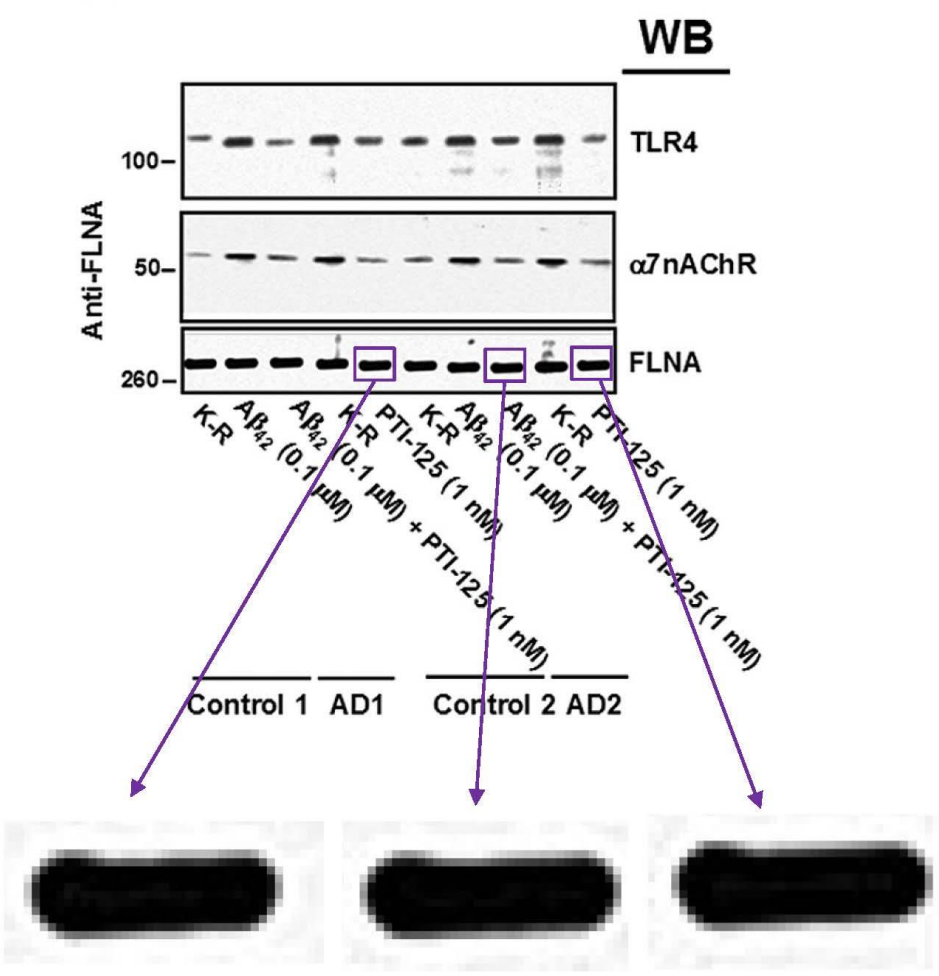


Thin white halos surround each band



Another important consideration is that the Wang and Burns 2012 Journal of Neuroscience paper uses human specimens from Alzheimer's disease patients. Any intentional misuse of such material violates the World Medical Association Declaration of Helsinki regarding ethical use of donated human tissue.

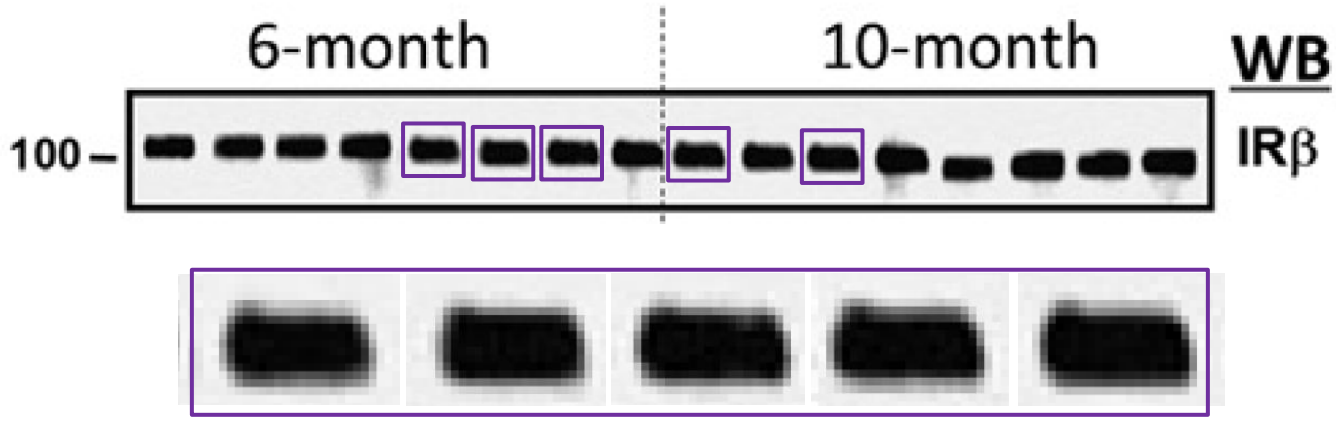
Figure 12A (below) of the Journal of Neuroscience paper, used human Alzheimer's disease tissue to establish the SavaDx biomarker and effects of PTI-125/simufilam. The ten filamin A (FLNA) bands appear identical in size and shape. As protein bands on Western blots typically have unique features, ten consecutive indistinguishable bands are exceedingly unlikely to occur by chance and were probably manually duplicated.



All ten virtually indistinguishable FLNA bands are exactly 11 pixels high and 32 pixels wide. Three examples are magnified here for illustration.

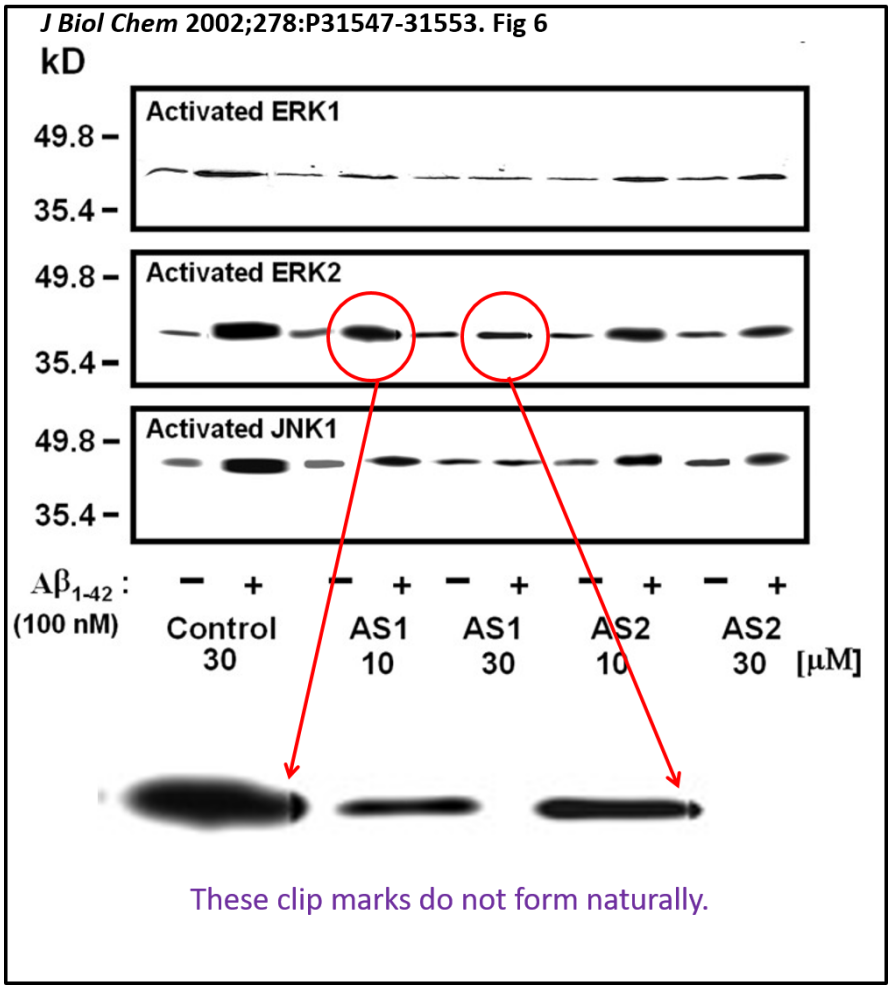
A subsequent paper alleging to connect PTI-125 with Alzheimer's disease is 2017 Neurobiol Aging 55: 99-114. Again, this paper largely comprises a series of overexposed, and apparently manipulated and cropped Western blots. Band duplication appears to occur throughout this paper.

As just one of many examples, Figure 8B contains Western blots from mice treated with PTI-125. The top blot displays a western blot using an antibody for IRβ (see label on the right). The similarity in size and shape of the bands in the purple boxes seemingly could not have occurred by chance. This and many other blots in this paper appear to have been manipulated.



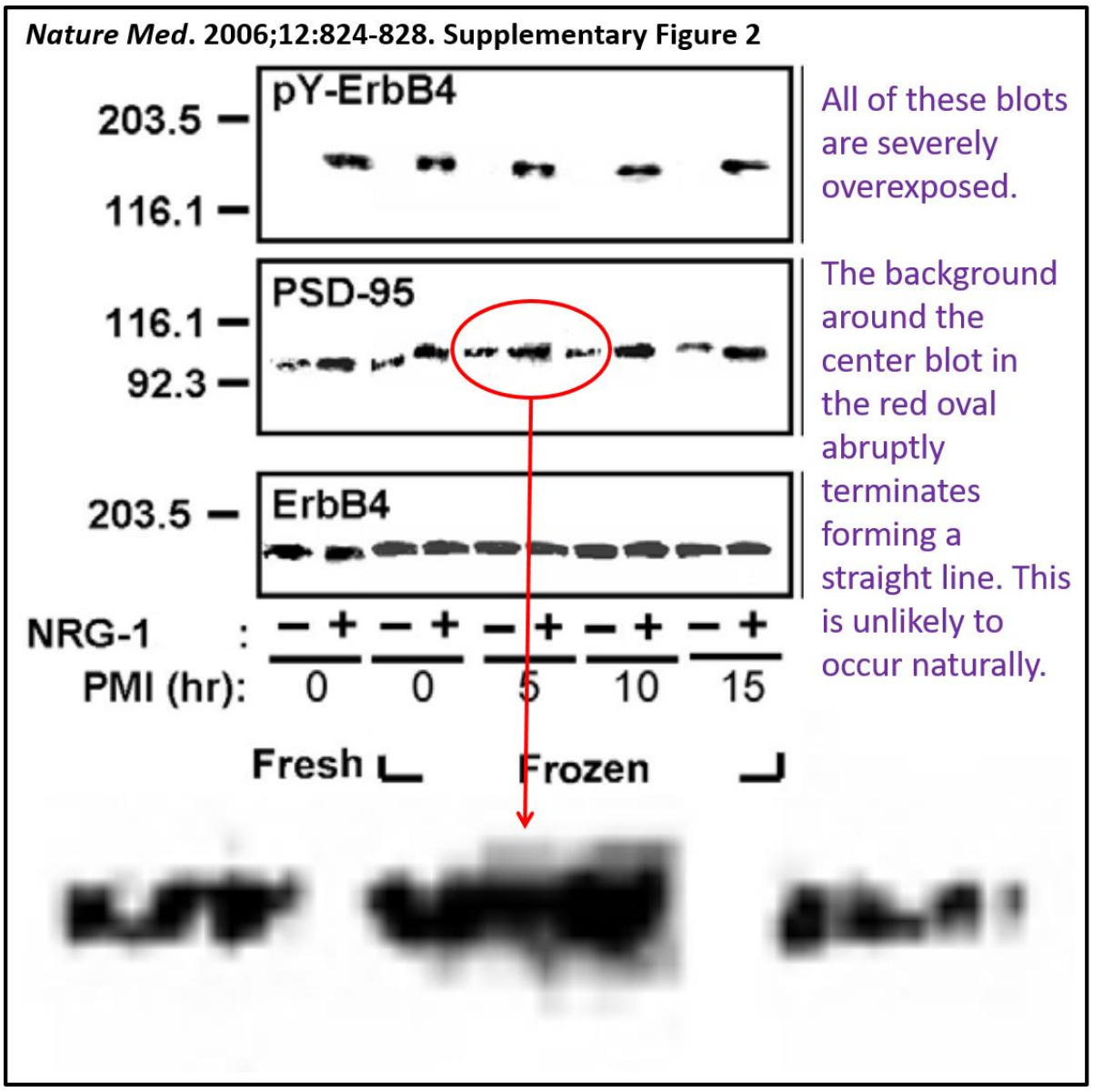
These five indistinguishable bands are all exactly 12 pixels high and 20 pixels wide.

The following example of a manipulated western blot occurred earlier than the examples referenced in the primary document. Dr. Wang was the first author of this 2002 paper in the *Journal of Biological Chemistry* 278:P31547-32553 and it is one of the few examples presented in this document without Dr. Burns as a co-author. The apparent manipulation applied to this blot is similar to that shown in C2.2.1. The marks highlighted at the red arrow do not form naturally and are likely produced by clipping multiple blots together. These blots are also severely overexposed. This study purports to establish that β-amyloid binding to the alpha7 nicotinic acetylcholine receptor induced tau phosphorylation, which is one of the pathways simufilam is supposed to interrupt.

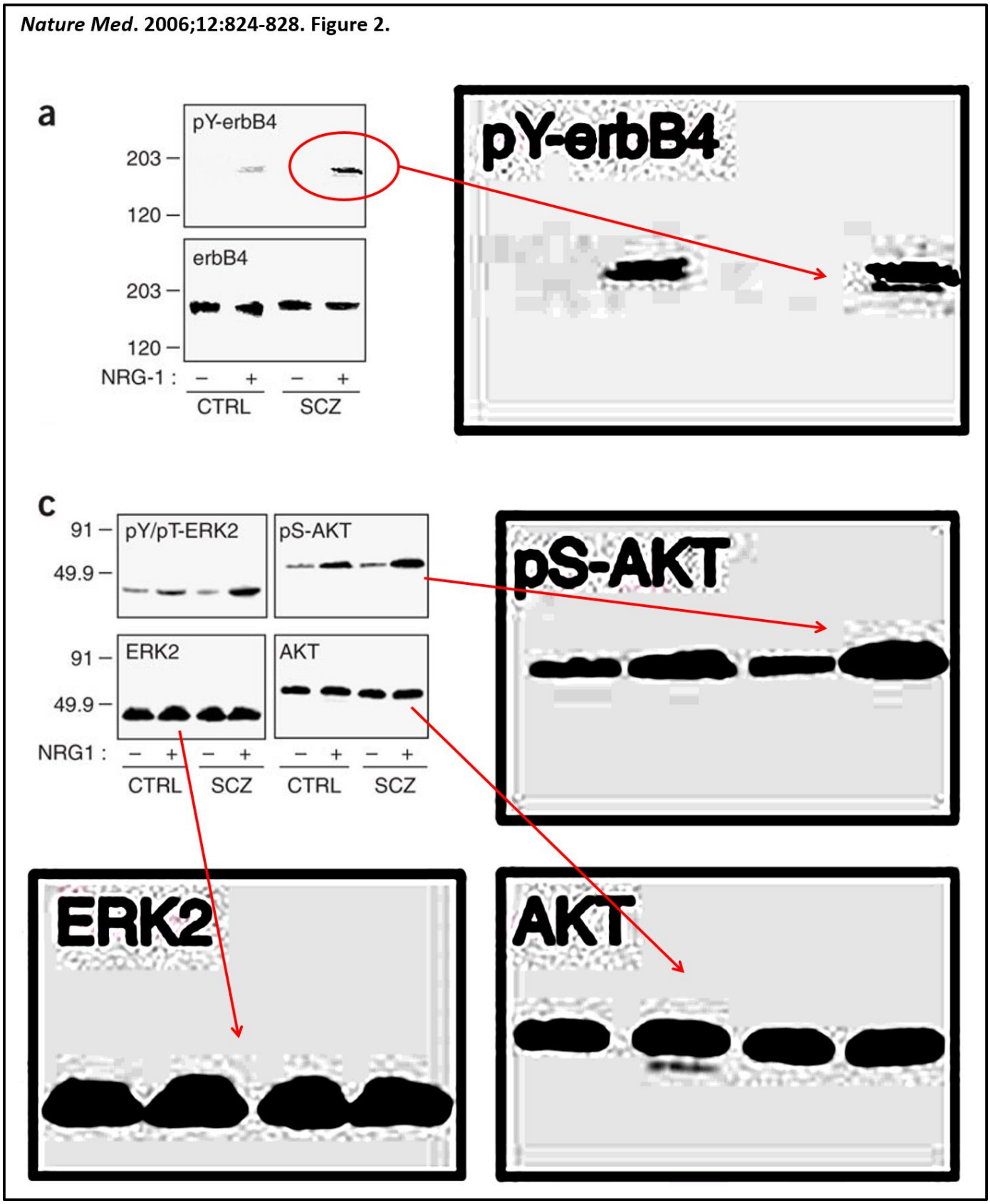


Because of the contemporaneous examples of western blot manipulation, we undertook an evaluation the author's highest profile publication, a 2006 publication in *Nature Medicine* 12:824-828. Dr. Wang is the co-first author of this work. There are numerous suspicious appearing blots in this publication, as well. Again, blots are suspiciously over-exposed. In the supplementary material accompanying that published manuscript, we encounter the blot shown below. The background has more-or-less been obliterated, except for a small area circled in the red oval. Linear termination of the background signal is suspicious for the original blot having been cut and reassembled. Because of the low quality of this image, we evaluated the images in the main manuscript (which are higher quality), to assess for evidence of tampering.

Importantly, this manuscript purports to establish the validity of the functional characterization of NMDA receptor signaling in post-mortem, frozen human brain material which is called into question in section C.3.1. Evidence of tampering with this evidence further calls into question the validity of this unusual technique.


Nature Med. 2006;12:824-828. Supplementary Figure 2
pY-ErbB4
203.5
116.1
PSD-95
116.1
92.3
ErbB4
203.5
NRG-1 : − + − + − + − + − +
PMI (hr): 0 0 5 10 15
Fresh
Frozen
All of these blots are severely overexposed.
The background around the center blot in the red oval abruptly terminates forming a straight line. This is unlikely to occur naturally.

The images in the main text are of higher quality, enabling clearer evaluation. Increasing



the contrast in the images published as Figure 4 (below) clearly reveals evidence of linear cuts in the blots. Importantly, there is clearly a smooth background between the two darker bands and a textured background only behind the dark bands. This was not likely done for cosmetic reasons, it strongly suggests a manufactured/fraudulent result. There is no legitimate explanation for this pattern of findings. This high-profile manuscript should be reviewed by the publisher and retracted. All subsequent manuscripts built on this technique should likewise be reviewed.

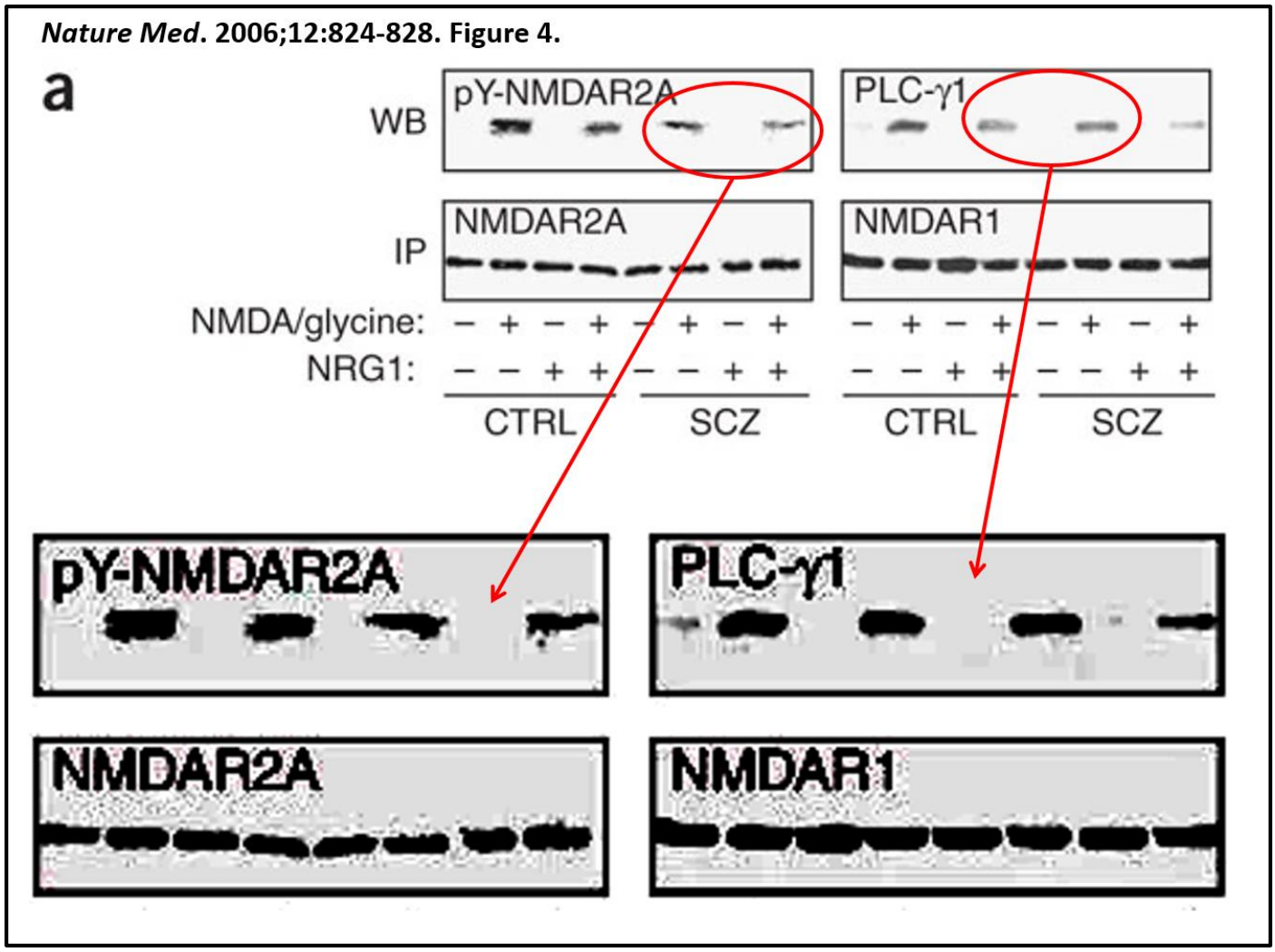


EXHIBIT 2

Labaton Sucharow

Rebuttal to 8/25/21 Cassava Sciences Press Release

August 26, 2021 04:50 PM Eastern Daylight Time

WASHINGTON--(BUSINESS WIRE)--On August 18, 2021, Jordan Thomas of Labaton Sucharow filed a Citizen Petition to the FDA on behalf of our clients who collectively have expertise in neuroscience, drug discovery, biochemistry, and finance. They also hold short positions in Cassava stock.

The Company responded on August 25, 2021 to the Citizen Petition with a press release in which they provided a rebuttal to the specific complaints in the Citizen Petition and denied any wrongdoing. Since the issuance of the press release, leading international experts on scientific integrity have independently validated key aspects of the Citizen Petition and have posted comments on PubPeer. On Twitter, they have critically questioned the Company's response.

Notably, commenting generally on the Western blots in question—**those that reportedly form the foundational data for simufilam (PTI-125) as a treatment for Alzheimer's Disease**—to Retraction Watch, David Vaux, deputy director of science integrity and ethics at the Australian Walter and Eliza Hall Institute of Medical Research (WEHI) stated: "It is not conceivable that features in the images (such as apparent duplications) arose due to coincidence (chance) or accident, leaving the only plausible explanation being that the images were deliberately falsified or fabricated."

Contacts

Media Contact:
Profile for Labaton Sucharow
Jackie Loose jloose@profileadvisors.com

EXHIBIT 3

CASSAVA SCIENCES, INC.

HISTORICAL STOCK PRICE FOR AUGUST 18-26, 2021

Date	Open	High	Low	Close	Adj Close	Volume
8/18/2021	102.309998	113.889999	102.169998	106.169998	106.169998	3561800
8/19/2021	106	107.040001	99.040001	101.230003	101.230003	2779600
8/20/2021	102.040001	107.199997	99.559998	104.059998	104.059998	3043100
8/23/2021	104.989998	116.870003	103.199997	115.610001	115.610001	3372600
8/24/2021	122.410004	123.370003	115.529999	117.830002	117.830002	5134800
8/25/2021	83.470001	96.629997	78.510002	80.860001	80.860001	29062700
8/26/2021	84.010002	86.360001	67.599998	70.849998	70.849998	25023100

EXHIBIT 4

Jordan A. Thomas
Labaton Sucharow
140 Broadway
New York, NY 10005

February 10, 2022

Re: Docket Nos. FDA-2021-P-0930 and FDA-2021-P-0967

Dear Mr. Thomas:

This letter responds to your citizen petition received on August 23, 2021 (August Petition), with supplements dated August 30, 2021, September 9, 2021, November 17, 2021, and December 8, 2021 (Docket No. FDA-2021-P-0930) and your citizen petition received on September 1, 2021 (September Petition), with a supplement dated September 9, 2021 (Docket No. FDA-2021-P-0967) (collectively, your Petitions).

Your August Petition describes "grave concerns about the quality and integrity of the laboratory-based studies surrounding this drug candidate and supporting the claims for its efficacy," and requests that the Food and Drug Administration (FDA or Agency):

- halt the current clinical studies of Simufilam (PTI-125) sponsored by Cassava Sciences (NCT04388254 and NCT04994483), pending audits of (1) the publications relied on by Cassava in support of its scientific claims concerning Simufilam; (2) the [investigational new drug application (IND)] for Simulifam's [sic] use in Alzheimer's Disease; and (3) all clinical biomarker studies of Simufilam in Alzheimer's Disease…

- oversee third party reanalysis of all clinical biomarker studies of Simufilam in Alzheimer's disease

(August Petition at 1-2).

You further state that "[t]he ongoing clinical trials should be paused until the satisfactory completion of these investigations" (August Petition at 2).

Similarly, your September Petition describes "grave concerns about the quality and integrity of the laboratory-based studies surrounding this drug candidate and supporting the claims for its efficacy," and requests that FDA:

- halt the new clinical study of Simufilam (PTI-125) sponsored by Cassava Sciences (NCT05026177), pending audits of (1) the publications relied on by Cassava in support of its scientific claims concerning Simufilam; (2) the [IND] for Simulifam's

> [sic] use in Alzheimer's Disease; and (3) all clinical biomarker studies of Simufilam in Alzheimer's Disease; . . .
>
> - oversee third party reanalysis of all clinical biomarker studies of Simufilam in Alzheimer's disease

(September Petition at 1-2).

You further state that "[t]he upcoming clinical trial should be paused until the satisfactory completion of these investigations" [1] (September Petition at 2).

On November 17, 2021, you submitted a third supplement to the August Petition (the Third Supplement) stating that based on increasing evidence of purported wrongdoing, "FDA has a duty to immediately halt the simufilam (PT1-125) clinical trials, conduct a rigorous audit of all the company's research and clinical trial results, and report the agency's findings to interested law enforcement and regulatory authorities" (Third Supplement at 1).

FDA has carefully considered your Petitions and acknowledges the importance of the issues they raise. But as a threshold matter, by their own terms, your Petitions do not purport to set forth all relevant factual information. Rather, you call on FDA to initiate an investigation and fact-finding process. We are denying your Petitions to the extent that they request, through the citizen petition process, that FDA initiate an investigation. Under § 10.30 (21 CFR 10.30), citizen petitions can request that FDA issue, amend, or revoke a regulation or an order, or take or refrain from taking an administrative action,[2] and are to be resolved based on information in the administrative record.[3] An investigation is not an administrative action, and, as your Petitions implicitly acknowledge, investigations necessarily require fact finding beyond what is presented in the current administrative record.

Moreover, issuing a response to your requests would appear to require FDA to publicly disclose information about an investigational new drug that, by law, FDA generally cannot publicly disclose. The Trade Secrets Act, 18 U.S.C. 1905, prohibits the disclosure of confidential commercial information unless doing so is authorized by law. FDA's regulations regarding confidential commercial information provide that if the existence of an unapproved application has not previously been publicly disclosed, "no data or information in the application . . . is available for public disclosure."[4] In addition, FDA's regulations provide that "the existence of an investigational new drug application will not be disclosed by FDA unless it has previously been publicly disclosed or acknowledged."[5] Thus, if the product sponsor has not previously

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[1] In your September 9, 2021, supplements to the August Petition and the September Petition, you also "respectfully recommend rescinding the recently announced [Special Protocol Assessment] for Simufilam" (September 9, 2021, supplement at 8).

[2] See § 10.30(b)(3).

[3] See § 10.30(j).

[4] § 314.430(c) (21 CFR 314.430(c)).

[5] 21 CFR 312.130(a).

made public the filing of an IND, FDA will not disclose the IND's existence. Nor will FDA disclose any information submitted as part of the IND: the application "includes all data and information submitted with or incorporated by reference in any application or abbreviated application, including investigational new drug applications."[6] If the sponsor has already disclosed the existence of an IND for a not-yet-approved product, FDA may confirm the existence of the IND.[7] However, FDA still will not make any "data or information contained in the application . . . available for public disclosure before the agency sends an approval letter," aside from narrow exceptions that are not relevant here.[8] Accordingly, restrictions on disclosure of nonpublic information contained in an IND file apply both when a sponsor has already disclosed the existence of an IND, and when a sponsor has not.

With respect to your supplemental request that FDA report findings "to interested law enforcement and regulatory authorities," such a request is similarly not amenable to the citizen petition process. Decisions regarding enforcement actions are made on a case-by-case basis and are within the discretion of FDA. Requests for the Agency to initiate enforcement action and related regulatory activity are expressly excluded from the scope of FDA's citizen petition procedures.[9]

We take the issues you raise seriously. Please note that your Petitions are being denied solely on the grounds that your requests are not the appropriate subject of a citizen petition. This response does not represent a decision by the Agency to take or refrain from taking any action relating to the subject matter of your Petitions.

Sincerely,

Patrizia A. Cavazzoni -S

Digitally signed by Patrizia A. Cavazzoni -S
Date: 2022.02.09 19:26:42 -05'00'

Patrizia Cavazzoni, M.D.
Director
Center for Drug Evaluation and Research

[6] § 314.430(a).

[7] § 314.430(b).

[8] § 314.430(d)(1).

[9] § 10.30(k).

EXHIBIT 5

Wang et al. Molecular Neurodegeneration (2022) 17:14
https://doi.org/10.1186/s13024-022-00519-x

Molecular Neurodegeneration

RETRACTION NOTE

Open Access

Retraction Note: Calcium-dependent cytosolic phospholipase A2 activation is implicated in neuroinflammation and oxidative stress associated with ApoE4

Shaowei Wang[1], Boyang Li[1], Victoria Solomon[1], Alfred Fonteh[2], Stanley I. Rapoport[3], David A. Bennett[4], Zoe Arvanitakis[4], Helena C. Chui[1], Carol Miller[1], Patrick M. Sullivan[5], Hoau-Yan Wang[6,7] and Hussein N. Yassine[1*]

Retraction Note: Mol Neurodegener 16, 26 (2021) https://doi.org/10.1186/s13024-021-00438-3

The authors have retracted this article because concerns have been raised regarding the data presented in Fig. 9. The authors are collecting new data and intend to submit a new manuscript for peer review in due course.

Authors Shaowei Wang, Boyang Li, Victoria Solomon, Alfred Fonteh, Stanley I. Rapoport, David A. Bennett, Zoe Arvanitakis, Helena C. Chui, Patrick M. Sullivan, Hoau-Yan Wang & Hussein N. Yassine agree to this retraction.

Author Carol Miller has not responded to any correspondence from the editor or publisher about this retraction.

Author details
[1]Departments of Medicine and Neurology, Keck School of Medicine, University of Southern California, Los Angeles, CA, USA. [2]Huntington Medical Research Institutes, Pasadena, CA, USA. [3]National Institute on Alcohol Abuse and Alcoholism, Bethesda, MD, USA. [4]Rush Alzheimer's Disease Center, Rush University Medical Center, Chicago, IL, USA. [5]Department of Medicine, Duke University Medical Center, Durham Veterans Health Administration Medical Center's Geriatric Research, Education and Clinical Center, Durham, NC, USA. [6]The City University of New York School of Medicine, New York, NY, USA. [7]Graduate School of The City University of New York, New York, USA.

Published online: 04 February 2022

Publisher's Note

The original article can be found online at https://doi.org/10.1186/s13024-021-00438-3

*Correspondence: hyassine@usc.edu
[1] Departments of Medicine and Neurology, Keck School of Medicine, University of Southern California, Los Angeles, CA, USA
Full list of author information is available at the end of the article

EXHIBIT 6

Neurobiology of Aging 113 (2022) 152

Contents lists available at ScienceDirect

Neurobiology of Aging

journal homepage: www.elsevier.com/locate/neuaging.org

Expression of Concern: Wang et al., (2017) PTI-125 binds and reverses an altered conformation of filamin A to reduce Alzheimer's disease pathogenesis. Neurobiol. Aging, 55:99-114

A reader has made the editors aware of concerns regarding the above-referenced report published at Neurobiology of Aging. These issues were conveyed to the authors, who provided a detailed response, including images of relevant uncropped western blots and photomicrographs, as the editor requested. The material was evaluated by an independent expert with relevant methodological expertise, the manuscript was scanned by AI-based figure proofing software (i.e., Proofig), and all available input was considered by the handling editor and Editor-in-Chief. Overall, the editors did not find compelling evidence of data manipulation intended to misrepresent the results. However, the following errors in the published report were identified during the course of the evaluation:

- The commercial catalog number listed for the primary antibody against α7 nicotinic receptor is incorrect.
- The specific activity of the C^{14}-PTI-125 is incorrect.
- The filamin A (FLNA) concentration in the binding assay is incorrect.
- The scintillation counter used to assay C^{14} was not properly calibrated or configured for the C^{14} radioisotope, and the absolute values reported are not reliable.
- In Figure 7, the 10-month-old HP panel for the WT - PTI-125 group is duplicated as the 6-month-old HP panel for the WT - vehicle group.
- Labeling in the key to Figure 12, lane 8, is incorrect.
- NR1 loading controls in Figure 12 were not measured from stripped re-probed gels as indicated in the published report; they were run on separate gels and one lane was omitted in Figure 12.
- Whereas the composition of Figure 12 suggests that all conditions were run on the same gel, conditions were in fact split across two gels (without internal controls or repeats).

The authors have requested a corrigendum to correct these issues. However, Neurobiology of Aging is aware of an ongoing inquiry of these and other concerns by the sponsoring institution, the City University of New York (CUNY), and will make a final decision as to appropriate corrective action once that inquiry has been concluded.

https://doi.org/10.1016/j.neurobiolaging.2022.03.012

EXHIBIT 7

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-Q

(Mark One)

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Quarterly Period Ended September 30, 2021

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Transition Period from _____ to _____
Commission File Number: 000-29959

Cassava Sciences, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**91-1911336**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification Number)*

7801 N. Capital of Texas Highway, Suite 260, Austin, TX 78731
(512) 501-2444
(Address, including zip code, of registrant's principal executive offices and telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.001 par value	SAVA	Nasdaq Capital Market

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer ☐	Accelerated Filer ☐
Non-accelerated Filer ☑	Smaller Reporting Company ☑
	Emerging Growth Company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☑

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Common Stock, $0.001 par value	40,016,792 Shares Outstanding as of November 10, 2021

Item 3. ***Quantitative and Qualitative Disclosures About Market Risk***

Per Item 305(e) of Regulation S-K, the information called for by this Item 3 is not required.

Item 4. ***Controls and Procedures***

Evaluation of disclosure controls and procedures. Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on this evaluation, our Chief Executive Officer (as Principal Executive Officer) and our Chief Financial Officer (as Principal Financial Officer) have concluded that our disclosure controls and procedures are effective to ensure that information we are required to disclose in reports that we file or submit under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to management as appropriate to allow timely decisions regarding required disclosures.

Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of September 30, 2021, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in internal control over financial reporting. There has been no change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) identified during the three months ended September 30, 2021 that has materially affected, or is reasonable likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

Item 1. ***Legal Proceedings***

From time to time, we may become involved in litigation or other legal proceedings and claims, including U.S. government inquiries, investigations and citizen petitions submitted to FDA. The outcome of these proceedings is inherently uncertain. Regardless of outcome, legal proceedings can have an adverse impact on us because of defense and settlement costs, diversion of management resources, and other factors. At this time, no assessment can be made as to their likely outcome or whether the outcome will be material to us. No information is available to indicate that it is probable that a loss has been incurred or can be reasonably estimated as of the date of the condensed financial statements and, as such, no accrual for these matters has been recorded within the condensed financial statements.

Government Investigations

Certain government agencies have asked us to provide them with corporate information and documents. We have been cooperating and will continue to cooperate with government authorities. No government agency has informed us that any wrongdoing has occurred by any party. We cannot predict the outcome or impact of any these ongoing matters, including whether a government agency may pursue an enforcement action against us or others.

Citizen Petitions Submitted to FDA

In August 2021, Labaton Sucharow LLP, a law firm representing anonymous clients who have a short position in our stock, submitted a Citizen Petition to the FDA (*a short position allows an investor to make a financial profit from a decline in our stock price*). This Citizen Petition requests that the FDA Commissioner immediately halt the clinical development of simufilam, our drug candidate for Alzheimer's disease. In September 2021, Labaton Sucharow LLP filed a supplement to their Citizen Petition, requesting that the FDA Commissioner immediately rescind previously granted Special Protocol Assessments (SPAs) for our Phase 3 clinical program with simufilam.

In October 2021, a second Citizen Petition was submitted to FDA by an individual unknown to us. This petitioner "*is requesting the FDA for approval of simufilam and immediate initiation of Phase 4 trials for further efficacy, safety assessment and, most critically, to address one of the greatest needs in modern medicine*."

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Cassava Sciences, Inc.
(Registrant)
/s/ REMI BARBIER
Remi Barbier,
Chairman of the Board of Directors,
President and Chief Executive Officer
(Principal Executive Officer)

Date: November 15, 2021

/s/ ERIC J. SCHOEN
Eric J. Schoen,
Chief Financial Officer
(Principal Financial and Accounting Officer)

Date: November 15, 2021

EXHIBIT 8

Company Name: Cassava Sciences Inc
Company Ticker: SAVA US Equity
Date: 2022-04-27

B. Riley Securities' 2022 Virtual Neurology & Ophthalmology Conference

Company Participants

- Eric Schoen, Chief Financial Officer
- Remi Barbier, Chairman of the Board, President & Chief Executive Officer

Other Participants

- Mayank Mamtani

Presentation

Mayank Mamtani {BIO 20890263 <GO>}

Good afternoon, and good morning to folks that on the West Coast. Welcome back to our next company presentation, with Cassava Sciences. I should say fireside chat actually with President and CEO Remi Barbier; and Chief Financial Officer, Eric Schoen. Thank you both for joining us and being part of the conference, appreciate you making time in your busy schedule.

So, just to be frank, I'd be a little surprised if people were unaware of what's going on with Cassava, but I think if you could just maybe start at a high-level talking about Cassava's lead drug simufilam, some of your preclinical, clinical activity over the years and sort of the potential in Alzheimer's disease.

Remi Barbier {BIO 1437936 <GO>}

Sure. Great way to kick off the conference and thank you for inviting us. Before we talk, we're a public company, so I need to go through a couple of forward-looking statements. During this question-and-answer session we will, and I'm reading off the paper, we will discuss our business outlook and make forward-looking statements. These comments are based on our predictions and expectations as of today. Actual events or results could differ materially to due to a number of risks and uncertainties, including those mentioned in our most recent filings with the SEC.

I also wish to remind you that drug development involves a high risk, high degree of risk and only a small number of product candidates eventually result in FDA approval. Our clinical results from earlier stage trials may not be indicative of future clinical results, and you should not place undue reliance on our forward-looking statements or any scientific data, we present or publish.

So let me repeat your question. Make sure I still remember it. Your question has to do with our drug simufilam and kind of a little bit of a background before we do a deep dive into the clinical details of our Phase 3 program. So we've been in the Alzheimer's really in a neurobiology space for many years, approximately since 2006 depending on when the start clock starts. And so, this is something that we care deeply about. And we've spent a lot, a lot of hours, thousands of hours thinking about neurobiology, thinking about Alzheimer's drug development and getting to where we are today.

One of our key insights is really based on a novel biological insight, which is to say that in the Alzheimer's brain, there is a an altered form of the filamin A protein, okay. I think you know that normally filamin A, filami A is a protein that is found through in your head down to your toes. It serves to provide a structure to cells, to the whole cytoskeleton system. In maintenance term, you might call it kind of one of a bricks or scaffold for the body, so very useful, very useful protein. I suppose all proteins are useful, but this one is absolutely essential. And if you knock out filamin A in knockout models, it's essentially a lethal model, from a genetic perspective.

So what, what our academic collaborators and what we discovered is that again in the brain there is this altered form of filamin A. The shape is physically altered. We, from that insight we went on to say well what if we could find a drug, a small molecule drug ideally that can fit the pharmaco 4 space and restore the proper shape of filamin A. And in fact after a chemical screening process, the whole nine yards, took a while, but we did find a family of small molecules that fit that space quite precisely.

And what we saw in mice was very encouraging, but everyone knows that in science lice mo -- mice lie all the time. But what was very interesting to us is that the drug seem to have a very safe profile certainly in animals. So from there we filed an -- we did again this is kind of a simplified and fast forward version of 10 years of really hard technical work. But to fast forward quite a bit we filed an IND. We did our safety studies, our preclinical studies.

We saw that in a -- in our Phase 1 studies and even in our Phase 2 studies our drug appears to be eminently safe. And certainly, if there's a thesis for lack of safety we don't know that. We think there's actually absence of a thesis for safety. We then did an open-label study. By design you know that open-label study does not include an act -- a placebo arm.

There are people who criticize the open-label study, because it for that very reason, it lacks a placebo group. But that's not the point. The point of an open-label study is to satisfy ICH guidelines around long-term clinical safety. In the open-label study, we also included a scale of cognition.

And what we announced, what we observed last year and what we announced was that in fact patients treated with open-label simufilam for some period of time, three, six and nine months. In fact had stable or improvements in a ADAS-Cog scores. That is a an interesting observation. It's clearly an exploratory observation. It is not evidence of clinical

safety. Let me repeat that is not evidence of clinical safety or clinical efficacy. But it's a very intriguing exploratory observation in my opinion. And that's exactly how we're treating it.

And I think a lot of distortions have been made around the intentions, our true intentions around the open-label study. Let me add that most companies will conduct an open-label study after Phase 3. We chose not to do that. As you know Mayank the Alzheimer's feel the clinical, the history of clinical trials in Alzheimer's disease as a disaster. The failure rate is pretty much 100%.

So, our thesis was that if we cannot observe safety and we cannot observe something beneficial to the patient in an open-label trial chances are it's probably not worth doing Phase 3 program. So that was kind of the thesis for conducting the open-label trial. We learned a number of things in the open-label study. We learned -- and we applied some of what we learned to Phase 3 program and that gets us to where we are today. So, I can stop here and you can ask your Phase 3 questions or I can run with it.

Questions And Answers

Q - Mayank Mamtani {BIO 20890263 <GO>}

(Question And Answer)

Yeah. And thank you for the complete nine yards that you talked about here and. But I do want to get into the clinical side of things and the Phase 3 trial and some of I think the focus on data readouts that you have, but maybe just to zoom-in, in the last two, three quarters what has been the attention is around the citizen predation, can you just from your standpoint summarize those developments briefly? I think you put out 8K yesterday kind of rebuttal to a New York Times article, because it was kind of a rehash of what has happened in the past few months at least to me.

And then the second part of that question is, the CUNY investigation that is part of the academic work collaborator that you have, like how are you thinking of sort of this implication really for Cassava again I absolutely acknowledge that there are five retractions with that academic investigator. But they're not in many ways related to Cassava as I understand it. But there's still considerations around, we started with Western blot, we had this logical magical images and then, the binding affinity kind of issues recently. So just like, just want to hear your thoughts at what level --

A - Remi Barbier {BIO 1437936 <GO>}

Yeah,

Q - Mayank Mamtani {BIO 20890263 <GO>}

-- this becomes something beyond sloppiness of research and gets into that frozen entitled. So just I know there's a lot in there, but I just want to cover this all and move on to the clinical side of things. And so if you can break those three buckets and kind of address that one by one that would be great.

A - Remi Barbier {BIO 1437936 <GO>}

Okay. And you're right. I appreciate that from an investor's point of view there's so much uncertainty and such an overhang due to the allegations that it's something that we need to address. Having said that, I'm not one to look in the rearview mirror. I really would like to address things going forward.

But, out of respect to your question, I will handle, I spend a couple minutes handling, your question here. So, back in August of 2021 an attorney with as far as I can tell no background in biotech, no background and biological research, certainly no background in brain research filed a citizens petition against Cassava Sciences with a long list of allegations. A lot of the allegations have to do with what are called Western blots or the western blotting technique.

The citizens petition caused quite a stir. It was extremely well publicized via press release and who knows what kind of social media by the, I suppose by the attorney or by somebody. And it certainly caused our a significant drop in the stock price and the price of Cassava Sciences. And there were subsequent, I think they were two more citizens petition that essentially mimicked with the first one said a bunch of supplements so on so forth.

If the intention of the citizens petition was to kind of put our entire science program under an umbrella of doubt, I would say the citizens petition succeeded, succeeded in doing that. A lot of investors kind of said ran away and said, I may come back when this is over.

In February, I believe it was approximately February, call it mid February of this year, the FDA responded. And it's a very interesting response. If you actually read the response for yourself, what the response, what the FDA says is there is no evidence. FDA works on evidence. By definition FDA is an evidence based organization. Its data-driven. They don't get their kicks off allegations.

So essentially they wrote a response saying, in the absence of evidence this is not an appropriate topic for the FDA to address. So the FDA, the citizens petition was denied. That was back in February and since then, there have been some more noises and allegations and so forth. But again, I think we -- since we only have 15, 20 minutes I probably have said enough regarding the allegations. If you would like to hear more about the -- kind of our side of the story, I would urge you to read my response to the New York Times, which is can be found on CassavaSciences.com.

Q - Mayank Mamtani {BIO 20890263 <GO>}

Thank you, Remi and really appreciate you taking on that, that difficult question, I know. But I think one part if I may just ask you about is the, your insight into the CUNY investigation and some of the developments there if you are able to comment there, I think that (Multiple speakers).

A - Remi Barbier {BIO 1437936 <GO>}

Yes, so, again, this is the last -- I really would like to talk about clinical program, because (Multiple speakers) medical shop. It is not Cassava Sciences investigation, it is CUNY's investigation. So, and I certainly am not a spokesperson for CUNY.

Q - Mayank Mamtani {BIO 20890263 <GO>}

Okay, fair enough. And just talking about I'm getting to the clinical program, but just about the interactions you've had with the FDA and sort of segueing from your comments, so the last from what we can tell and I think this (inaudible) sort of what you got and that got your Phase 3 trial ongoing. Was that sort of, that end of Phase 2 meeting you had with the FDA sort of the formal official correspondence you had with them? And since then you're kind of off to the races with the Phase 3 on that.

A - Remi Barbier {BIO 1437936 <GO>}

Yeah great question. So you are correct in January of 2021 we met with the FDA. It was a virtual meeting, because of COVID during which we laid out a proposed Phase 3 program to test the safety the long-term safety and efficacy of simufilam. There was mutual agreement on most items. I think there was a discussion about some of the details. Very, in our any Phase 3 program by definition is going to be complex.

So again, leaving out the details we feel it was a very good meeting. We feel there was buy in from FDA into our Phase 3 program. Certainly there was alignment on the clinical endpoints. There was a alignment on the number of patients. There was alignment I would say on the key metrics. And since then, yes, we have been off to the races as you put it.

Q - Mayank Mamtani {BIO 20890263 <GO>}

Okay.

A - Remi Barbier {BIO 1437936 <GO>}

Which is a good way, a good segue into -- let's talk about perhaps what investors should except during a Phase 3 program. I've said this before, I'll say it again, Phase 3 programs, by definition are complex, they're lengthy, they're expensive. I wish there was some way to say, presto, here's our answer there was not.

At some respects it might be compared to walking across the desert, at least from an investor's point of view. And I get that investors feel that there's a kind of an information void. But that's by design. We this -- our clinical data is blinded, like all data that's part of their randomized controlled program. So there's really not a whole lot we can say regarding the Phase 3, the progress of the Phase 3 program other than sharing with our stake holders some of the key metrics such as moment (inaudible), number of sites, geographical dispersion, inclusion criteria, exclusion criteria, that type of thing.

I will add that as we reviewed the history of Phase 3 programs in Alzheimer's disease, there are a couple of observations that popped out. The most obvious observation is that every Phase 3 program in AG has failed. So, the very -- step forth very carefully. The

second thing I will say that if you look at why and how they failed, I think, and again this is subject to interpretation.

So, this is not, what I'm about to say is not a law of physics, but I think a number of Phase 3 programs by other sponsors may have failed, because of the inclusion and exclusion criteria, which is to say perhaps in the rush to get patients, perhaps in the pressure to respond to Wall Street and get the enrollment rates up. Maybe things were rushed.

We want to be very careful not to repeat those mistakes. So in our case our Phase 3 studies and there are two of them has a very a relatively long list of inclusion criteria and exclusion criteria. So if you include these patients and then you exclude them on that basis what you're left with, I'm going to pick some hypothetical numbers, if we have a thousand patients calling us and say excuse me, not us, but our clinical sites, based on the inclusion criteria that thousand patient cohort may be reduced down to pick a number a 100 maybe 200.

And then as you apply the exclusion criteria's that 200 number made whittled down to 50. Then the fun starts. Then you've got the pre-screening activities to confirm that in fact they have AG. And we do this one of two ways. We can do it either through and again when I say we it's the royal we the clinical sites. The excuse me, the confirmation is done certainly the MMSE 16 to 27. But that MMSE is always been a very, a 10-minute crude shot in the dark.

The more important criteria for us in terms of screening is either a CSF excuse me, t-tau A?42 CSF ratio of 0.28 or better or a pet scan that in fact corresponds to the presence of AD. That's prior to screening. During screening they -- every candidate also has to go through a plasma p-tau181 test. So that's a lot of screens.

And again, why do we put all these screens in place to make sure to confirm as humanely as we can, that patients who present to us in fact, suffer from mild to moderate AD within a very narrow definition of that and not vascular AD or some other type of dementia.

And appreciate you are proactively addressing that (inaudible). I think some folks have pointed out that, snow sort of up take in enrollment or I mean, are you able to identify any differences between sort of inclusion, exclusion criteria for your study with, other trials, I think there's only one or two that are ongoing.

And it looks like there's a dramatic difference from your open-label study, which is also mild to moderate and, you're sort of in this business of comparing contrasting with these studies as, them a lot of investors do that. So that's where, anything any information you're able to share on screen failure rate, yeah so, all of that I know you're kind of developing all this information as you sort of learning about this study. But yeah, any sort of analysis your clinical operations team has done internally, which kind of points to the study being a little more cumbersome than others.

I mean, I'm not sure I would use the word cumbersome, selective maybe a better word. Cumbersome means, to me that's kind of the weight, dead weight. We have no dead

weight. In fact we put patients through all these screens to specifically eliminate the dead weight. So it's more safeguards than cumbersome.

I also appreciate that, look in your position, your job is to kind of compare and contrast, our study versus other studies. We know that Lilly has a Phase 3 study, that's ongoing. We see them in the marketplace. The Lilly drug is an infusion. The Lilly -- their study targets a slightly different patient population. So not exactly fair to compare, our study to their study.

We know Biogen is obligated to do a Phase 4 study. But again, Biogen's drug for Alzheimer's is an infusion. It's also an open-label study. I believe so a very different way of thinking about going about conducting the study.

Q - Mayank Mamtani {BIO 20890263 <GO>}

Got it. Thank you. And then, talking about some of the other activities beyond the Phase 3 studies, I mean, it's not like you have a big beta gap in terms of, what open-label study data you're working on. And also, I want to touch on the CMS Cognition Maintenance Study if you could talk about that, because that could really help us understand in a placebo controlled manner what withdrawal from the drug looks like.

So can you help us understand how you -- hundred patients you already reported data on, now you have 200 patients enrolled in the open-label an I think 60%-70% are now in the Cognition Maintenance Study. So how your are sort of the thinking of all that data that sort of is coming together in better in terms of not just sort of presentation, but also like what investors should expect from that?

A - Remi Barbier {BIO 1437936 <GO>}

Okay, so that was about twelve questions rolled into one. Let me see if I can tease them apart. So we have an open-label study that's ongoing. That study is fully enrolled. It was fully enrolled I believe end of September of last year. That is a 52 week, call it a one-year study. So approximately end of October, we should have a preliminary data.

There's always a kind of the post study analysis to look it at. So bottom-line is we expect to announce the full data set for the open-label study approximately end of this year. One of the questions I get a lot, I'm surprised you haven't asked me yet, but pretty sure you will is -- will we or won't we present interim analysis, interim analysis data on essentially the halfway point of the open-label study. Which is to say 100 patients treated with open-label simufilam for one year.

It's a fair question. Arguably it's a good data point to release, stay tuned, stay tuned. Let me just say that we continue to be satisfied with the open-label data both on the safety and other endpoints that we see.

Following the open-label treatment period, patients, subjects, participants have the option of enrolling in what we're calling the cognition maintenance study, this or CMS. The

CMS then becomes a placebo-controlled enrolled, placebo-controlled double-blinded study, okay.

In early April, we had announced we had, I believe 69 subjects out of a target of approximately 100. So, we're almost there not quite. The CMS to me is very interesting. And I'll tell you why, I personally find it fascinating. Normally, a clinic of a randomized controlled trial has a goal of asking the question what happens to subjects when they're given a drug? What happens to a patient? That's not the question that the CMS responds to. The CMS responds to the flip side of that, which is to say all subjects have been treated on open-label simufilam for year. What happens when some, half of those patients are now taken off simufilam under controlled blinded environment. Stay tuned. We don't know.

Q - Mayank Mamtani {BIO 20890263 <GO>}

Okay.

A - Remi Barbier {BIO 1437936 <GO>}

Whar, sorry, let me just add this is small study remember 100 subjects maximum so 50 placebo, 50 or 100. So if you run the math in your head and I know you have a good head for numbers, we would have to see some pretty dramatic effects to reach statistical significance and that's okay. What we're looking more importantly than statistical significance is directional trends.

We want ideally, we would want the placebo arm to separate from the drug arm. And if we see some separation and that separation maintains, I think it's a good sign. I think it confirms the biological basis for our drug.

Q - Mayank Mamtani {BIO 20890263 <GO>}

And so that data set would come together when Remi. What have you said? And is it -- what time point six months?

A - Remi Barbier {BIO 1437936 <GO>}

So again to the extent, we have not completed enrollments. Let's say hypothetically, we complete enrollment midsummer this year to one year study. So maybe middle of next year, we should have some data from the -- we should unblind the data from the CMS.

Q - Mayank Mamtani {BIO 20890263 <GO>}

Right. And what is also fascinating from a biological fact standpoint was your biomarker data that we saw the first 25 patients at six months. I don't know if you want to summarize that and then also talk about the next tranche of 12 month data briefly, I know we are running against time here. And sort of what you have said timeline wise would also be helpful.

A - Remi Barbier {BIO 1437936 <GO>}

Yes, so thank you for bringing that up. It is very important to us, to be for our clinical program in Alzheimer's to understand really the biological effects of our drug, especially since the science is -- it's relatively new. It's not like the anti-amyloid or anti (inaudible) thesis, which has been around for many, many years. Everyone's bought into that those thesis' but, in practice the results have been real mixed.

So because of science is relatively new and still exploratory, it is important for us to observe the biological effects. I think one of the best ways to measure the biological effects of our drug in humans is to look at CSF. And in fact 25 patients from the open-label study were selected for -- what was it six months, after six months of open-label treatments. And we did see some very nice drops in levels of some of these key bio-markers such as what was it? T-tau, p-tau181 was in there.

There were a number of biomarkers. I believe all that data is in now our on our website in the corporate deck. We also have a plan to look at another set of 25 subjects. Treat it for one year with open-label treatment of simufilam. And measure levels changes really, and levels of their biomarkers. Sometimes I get that question well, why only 25 why not all 100 or 200? Remember this is CSF. So in order to get CSF it's a procedure and it's, can be painful, there can be infections and so forth. So both for ethical, as well as practical reasons, we kind of limit it to 25 subjects.

Q - Mayank Mamtani {BIO 20890263 <GO>}

So, just to may be clarify on that quickly, the only first 50 subjects in the open-label had their CSF, the other, because your enrollment did take up as you expanded that on open-label. So those did not have CSF, so the samples that you have for CSF are only for 50 -- 25 you have reported on and 25 it looks like, that's work in progress. Is that fair?

A - Remi Barbier {BIO 1437936 <GO>}

I heard the number 50, it's actually 25. So 25 at six months, 25 at 12 months. So yeah, 25 plus 25 50.

Q - Mayank Mamtani {BIO 20890263 <GO>}

But different patients, right?

A - Remi Barbier {BIO 1437936 <GO>}

I -- there may be a few patients that overlapped. Remember, they have to volunteer for the CSF.

Q - Mayank Mamtani {BIO 20890263 <GO>}

Okay. Okay.

A - Remi Barbier {BIO 1437936 <GO>}

So there may be some overlap, but I would say for the most part, it's going to be different subjects.

Q - Mayank Mamtani {BIO 20890263 <GO>}

And we should see that data also this year, along with your interim analysis with, sorry, I didn't ask you about 100 patients and then you're 200 patient interim. So, those are your three sort of datasets we should expect this year.

A - Remi Barbier {BIO 1437936 <GO>}

I think that's a fair assessment.

Q - Mayank Mamtani {BIO 20890263 <GO>}

Okay. Wonderful. I think we are running against time here. So maybe if I can bring in Eric quickly to talk about your financials. Again, it's an expensive endeavor obviously to do Alzheimer's studies. But it looks like, you guys have been managing the balance sheet effectively. So just maybe comment on that, where does that take you? How are you sort of managing burn rate now? Actually, it's a big growth phase, investment phase for the company.

A - Eric Schoen {BIO 17958206 <GO>}

Sure, great question. So the last reported number goes back to the December 31, 2021. We had approximately 233 million in cash. That, we've said before and I'll say again that would get us to the end of the Phase 3 studies. If you want some color on it, though I'll say we're, the studies have just gotten going in the fall last year and spring this year there are a lot of upfront costs that the vendors want. So the spend might not be reflective of the progress in the studies.

Q - Mayank Mamtani {BIO 20890263 <GO>}

Understood. And this takes you until the --what have you said, Eric?

A - Eric Schoen {BIO 17958206 <GO>}

To the end of the Phase 3 program.

Q - Mayank Mamtani {BIO 20890263 <GO>}

Which, what do you predict right now would be the end --

A - Eric Schoen {BIO 17958206 <GO>}

We haven't given an exact time frame.

Q - Mayank Mamtani {BIO 20890263 <GO>}

Okay, I understand. Thanks again team so much for participating in this fireside chat. Again, lots of progress here to follow, noise to follow, but, thank you for being (inaudible) here and appreciate the audience tuning in and sending some of the questions along the way.

A - Remi Barbier {BIO 1437936 <GO>}

Thank you for having us.

Absolutely. Take care.

EXHIBIT 9

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

SCHEDULE 14A
(Rule 14a-101)

INFORMATION REQUIRED IN PROXY STATEMENT

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Schedule 14a of the Securities Exchange Act Of 1934

Filed by the Registrant ☑

Filed by a party other than the Registrant ☐

Check the appropriate box:

☐ Preliminary Proxy Statement
☐ Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
☑ Definitive Proxy Statement
☐ Definitive Additional Materials
☐ Soliciting Material Pursuant to §240.14a-12

Cassava Sciences, Inc.

(Name of Registrant as Specified in its Charter)

Not Applicable

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

☑ No fee required.
☐ Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0 11 (set forth the amount on which the filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

☐ Fee paid previously with preliminary materials.
☐ Check box if any part of the fee is offset as provided by Exchange Act Rule 0 11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.
(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

The following table sets forth certain information with respect to the beneficial ownership of Common Stock as of March 16, 2021 by:

- any person (including any group as that term is used in Section 13(d)(3) of the Exchange Act), known by the Company to be the beneficial owner of more than 5% of the Company's voting securities (a "5% Holder");
- each director and each nominee for director to the Company;
- each executive officer named in the Summary Compensation Table appearing herein; and
- all executive officers, directors and nominees for director of the Company as a group.

The number of shares and percentage of Common Stock outstanding are based on the aggregate of 39,894,024 shares of Common Stock outstanding as of March 16, 2021. The Company does not know of any arrangements, including any pledge by any person of securities of the Company, the operation of which may at a subsequent date result in a change of control of the Company.

Name and Address of Beneficial Owners [1]	Number of Shares	Percentage of Common Stock Outstanding
Directors and Named Executive Officers		
Remi Barbier[2]	2,047,449	5.0%
Nadav Friedmann, Ph.D., M.D.[3]	572,076	1.4%
Eric J. Schoen[4]	58,550	*
Sanford R. Robertson[5]	1,027,943	2.6%
Robert Z. Gussin, Ph.D.[6]	119,225	*
Michael J. O'Donnell, Esq.[7]	83,223	*
Patrick J. Scannon, M.D., Ph.D.[8]	89,144	*
All current directors, executive officers and nominees for director as a group (7 persons)[9]	3,997,610	9.6%

(1) This table is based upon information supplied by officers, directors and principal stockholders and Schedules 13G filed with the SEC. Unless otherwise indicated in the footnotes to this table, and subject to community property laws where applicable, each of the stockholders named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned. The address for directors and executive officers is the Company's address. Percentages of Common Stock outstanding are rounded to the nearest tenth.
(2) Includes (i) 799,134 shares issuable pursuant to options exercisable within 60 days of March 16, 2021, (ii) 169,460 shares issuable pursuant to options exercisable within 60 days of March 16, 2021 by Mr. Barbier's spouse, who is an employee of the Company and (iii) 323,851 shares held by members of Mr. Barbier's immediate family. Mr. Barbier is also a 5% Holder.
(3) Includes 507,663 shares issuable pursuant to options exercisable within 60 days of March 16, 2021 and 143 shares held in trust by Dr. Friedmann for a member of Dr. Friedmann's family.
(4) Includes 31,250 shares issuable pursuant to options exercisable within 60 days of March 16, 2021.
(5) Includes 115,320 shares issuable pursuant to options exercisable within 60 days of March 16, 2021.
(6) Includes 115,316 shares issuable pursuant to options exercisable within 60 days of March 16, 2021.
(7) Includes 78,353 shares issuable pursuant to options exercisable within 60 days of March 16, 2021.
(8) Represents shares issuable pursuant to options exercisable within 60 days of March 16, 2021.
(9) Includes 1,905,640 shares issuable pursuant to options exercisable within 60 days of March 16, 2021.
* Represents beneficial ownership of less than one percent (1%) of the outstanding shares of Common Stock, adjusted as required by the rules promulgated by the SEC.

EXECUTIVE COMPENSATION AND OTHER MATTERS

Compensation Discussion and Analysis

This compensation discussion and analysis provides an overview and analysis of our Compensation Committee's philosophy and objectives in designing compensation programs for our chief executive officer and our two other most highly compensated executive officers for our most recently completed fiscal year, whom we refer to collectively as the "named executive officers".

For the fiscal year ended December 31, 2020, our named executive officers were:

Name	Position
Remi Barbier	President, Chief Executive Officer and Chairman of the Board of Directors
Nadav Friedmann, Ph.D., M.D.	Chief Medical Officer and Director
Eric J. Schoen	Chief Financial Officer

Our compensation programs are designed to provide long-term and currently-paid compensation and cash and non-cash compensation for our executive officers in order to align the compensation of our executive officers with our performance on a short-term and long-term basis. Our compensation programs reflect the following objectives:

- to attract and retain high-performing executive talent;
- to encourage corporate behavior that is consistent with our values and goals;
- to create financial incentives for superior performance;
- to balance the achievement of corporate and individual goals, whereby individual executives are rewarded for the performance of the business functions for which they are responsible in addition to our overall performance;
- to ensure that our executive compensation programs are competitive with those of regional companies in our industry, so that we can continue to attract, retain and motivate executive talent; and
- to encourage the development of a diverse executive talent pool and continuity of leadership.

These objectives include qualitative factors that strengthen our ability to meet long-term growth, such as demonstrated leadership ability, management development, ensuring compliance with laws, regulations and our policies, and anticipating and responding to changing conditions.

We do not have a set policy for allocating long-term and currently-paid compensation. Each year, our Compensation Committee determines the amount and allocation of long-term and currently-paid compensation and cash and non-cash compensation for executive officers. We believe there is no single source of data that provides the information sought by the Compensation Committee to arrive at these determinations. We have relied on data from a number of sources, including a review of internally generated industry surveys; the experience and knowledge of members of the Compensation Committee, Board of Directors and senior management; and additional factors, such as recent market trends and general business conditions. Survey data from prior years that we may use include compensation information regarding publicly-held companies in our industry that are similar in size, breadth, stage of development or complexity to us.

While none of these sources of data is prescriptive per se, each source helps the Compensation Committee evaluate the appropriateness of total compensation for each executive at a particular point in the Company's life cycle. For example, a certain position may be highly strategic for a period of time and we may believe it desirable to pay that position closer to the level of a chief executive officer during that same period.

To assist the Compensation Committee with its responsibilities, we provide briefing materials prepared or summarized by management. Our Chief Executive Officer participates in the collection and dissemination of briefing materials and interacts with the Compensation Committee in reviewing some of the elements of yearly performance and compensation of the executive management team. The Compensation Committee believes that an appropriate level of input from our Chief Executive Officer provides a necessary and valuable perspective in helping the Compensation Committee formulate its own independent views on compensation. The Compensation Committee makes all final determinations as to compensation levels for executive officers.

Elements of Executive Compensation

We focus our executive compensation program on three related but distinct elements: base salary, cash bonuses and stock related compensation. We did not purchase or generate updated internal survey data in connection with the review of compensation in 2020.

Base Salary. We offer a base salary to attract and retain qualified executive officers. Base salaries are based on broad salary ranges that take into consideration a number of factors, including:

- an executive's job responsibilities;
- individual performance;
- our corporate performance;
- competitive market data; and
- our total compensation expense.

Changes to base salary vary according to individual contributions to our success and comparisons to similar positions at both this Company and other comparable companies.

In late-2020, after reviewing each executive's job responsibilities, individual performance, our corporate performance, competitive market data and our total compensation expense, the annualized salary of Mr. Barbier was increased by approximately 6% to $975,000 from $920,000; the annualized salary of Dr. Friedmann was increased by approximately 6% to $365,000 from $345,000; and the annualized salary of Mr. Schoen increased by 10% to $275,000 from $250,000. These changes were effective January 1, 2021.

Pension Plan and Benefits. Approximately half or more of our current employees have provided over 15 years of continuous service to the Company. However, regardless of length of service, we do not provide a pension plan or pension benefits for any of our employees, nor do we anticipate offering any such benefits in the near future.

2020 Cash Incentive Bonus Plan. On August 26, 2020, the Board of Directors approved the *2020 Cash Incentive Bonus Plan* (the "Cash Incentive Plan"). The Cash Incentive Plan was established to promote the long-term success of the Company by creating an "at-risk" cash bonus program that rewards Cash Incentive Plan participants, including the Company's executive officers and directors, with additional cash compensation in lockstep with significant increases in the Company's market capitalization. The Cash Incentive Plan is considered "at-risk" because Cash Incentive Plan participants will not receive a cash bonus unless the Company's market capitalization increases significantly and certain other conditions specified in the Cash Incentive Plan are met.

For purposes of the Cash Incentive Plan, the Company's market capitalization is determined based on either (1) the closing price of one share of the Company's Common Stock on the Nasdaq Capital Market multiplied by the total issued and outstanding shares and options to purchase shares of the Company or (2) the aggregate consideration payable to security holders of the Company in the event of a merger or acquisition transaction that constitutes a sale of ownership of the Company or its assets (a "Merger Transaction").

The Company's market capitalization was $89.4 million at the inception of the Cash Incentive Plan on August 26, 2020. The Cash Incentive Plan triggers a potential cash bonus each time specified market capitalization levels are achieved, up to a maximum $5 billion in market capitalization. The Cash Incentive Plan specifies 14 incremental market capitalization levels between $200 million and $5 billion (each increment, a "Valuation Milestone"). Each Valuation Milestone triggers a potential cash bonus award in a pre-set amount defined in the Cash Incentive Plan, subject to satisfaction of the additional payout conditions noted below. Each Valuation Milestone must be achieved and maintained for no less than 20 consecutive trading days for Cash Incentive Plan participants to be eligible for a potential cash bonus award.

Payment of cash bonuses is contingent on (1) the Company having completed a Merger Transaction, or (2) the Compensation Committee of the Board (the "Compensation Committee") having determined the Company has sufficient cash on hand, as defined in the Cash Incentive Plan, to render payment, neither of which may ever occur. Accordingly, there can be no assurance that Cash Incentive Plan participants will ever be paid a cash bonus that is awarded under the Cash Incentive Plan, even if the Company's market capitalization increases significantly.

The Company's Chairman, President and Chief Executive Officer (assuming such participant shall hold all three such offices) shall be entitled to 33.3% of any bonus award triggered upon attainment of a Valuation Milestone. Each current independent director shall be entitled to 2.0% of any such bonus award, subject to a reasonable increase for committee members as approved by the Board. Dr. Friedmann is a member of the Scientific and Technical team, which is entitled to receive in the aggregate a maximum of 33.3% of any bonus award triggered upon attainment of a Valuation Milestone, provided that actual aggregate amounts may be less than 33.3% in the sole discretion of the Compensation Committee. Mr. Schoen is a member of a team that is entitled to receive in the aggregate a maximum of 23.3% of any bonus award triggered upon attainment of a Valuation Milestone, provided that actual aggregate amounts may be less than 23.3% in the sole discretion of the Compensation Committee. The Compensation Committee expects to consider a variety of factors in allocating Cash Incentive Plan awards among team participants, including years of experience, education level, longevity with the Company, intellectual and other contributions to the Company, the actual and projected success of the Company and additional factors affecting overall compensation. There is no continuing service requirement for Cash Incentive Plan participants once the Compensation Committee approves a cash bonus award. Any amounts not awarded by the Compensation Committee are no longer available for distribution.

As of December 31, 2020, an aggregate of $10.0 million in potential payments were triggered under the Cash Incentive Plan as a result of achievement of Valuation Milestones. The Compensation Committee has approved a potential cash bonus award of $7.3 million in total for all Cash Incentive Plan participants, with $3,330,000, $1,500,000 and $50,000 of such potential payouts being allocated to Mr. Barbier, Dr. Friedmann and Mr. Schoen, respectively. However, payment of cash bonuses is contingent on achievement of the additional performance conditions noted above. Accordingly, there can be no assurance that executive officers will ever be paid these potential payments or any other cash bonus under the Cash Incentive Plan.

No actual cash payments were authorized or made to participants under the Cash Incentive Plan during the year ended December 31, 2020, or through March 31, 2021.

Stock Related Compensation. Stock related compensation includes both stock option grants and other types of equity awards within the terms of our 2008 Equity Incentive Plan and 2018 Plan, as applicable.

Each executive officer is eligible for stock option grants as well as share-based awards that vest upon achievement of certain performance criteria, or "Performance Awards". Such grants are intended to link executive awards with stockholder value over time. Only our Board of Directors, acting in its sole discretion, or the Compensation Committee grants options or Performance Awards to our executive officers.

We view stock options as one of the more important components of our long-term, performance-based compensation philosophy. We provide options through initial grants at or near the date of hire and through subsequent periodic grants. Options for executive officers are granted, vest and become exercisable at such time as determined by our Board of Directors. Generally, stock option grants are exercisable over a four-year period and have an exercise price equal to the fair market value of our stock at the time of grant. Initial grants are based on ranges that take into consideration an executive's job responsibilities and competitive market data. For subsequent periodic grants, the Compensation Committee evaluates performance based on each individual's contribution to the long-term success and growth of the Company, the Company's performance and the motivational value of additional incremental stock option grants. No stock options are granted in the absence of satisfactory performance. Stock option grants generally terminate shortly after an executive officer ceases providing services to the Company.

There has not been nor is there currently proposed any transaction or series of similar transactions requiring disclosure in this Proxy Statement to which we were or are a party in which any director, executive officer, holder of more than 5% of our Common Stock or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest, other than fees and expenses incurred for legal services, described below, and compensation agreements and other arrangements which are described in the section entitled "Executive Compensation and Other Matters – Employment and Severance Arrangements" and the indemnification agreements described below. In accordance with the charter of the Company's Audit Committee, the Company's policy is to require that any related party transactions be reviewed and approved by the Audit Committee.

Legal Services

During 2020, Morrison & Foerster LLP ("Morrison & Foerster") provided legal services to the Company. Mr. O'Donnell, a director of the Company, is a partner of Morrison & Foerster. For the fiscal year of 2020 and 2019, we paid Morrison & Foerster a total of $388,700 and $120,300, respectively, for legal services. All such services provided by Morrison & Foerster to the Company were made in the ordinary course of business and on substantially the same terms as other comparable transactions with third parties. We believe the legal fees paid in 2020 to Morrison Foerster were less than 5% of such firm's total gross revenues for its last completed fiscal year.

Independence of Directors

The Board of Directors has determined that directors Robert Z. Gussin, Ph.D., Michael J. O'Donnell, Esq., Sanford R. Robertson and Patrick J. Scannon, M.D., Ph.D. are each independent as defined under the Nasdaq Stock Market LLC listing standards. In determining the independence of Mr. O'Donnell, our Board of Directors reviews our relationship with Morrison & Foerster in conjunction with the applicable independence guidelines under the applicable listing standards of the Nasdaq Stock Market LLC. The Board of Directors has also determined that each member of the Compensation Committee is independent as defined under the Nasdaq Stock Market LLC listing standards, and that each member of the Audit Committee is independent as defined under Nasdaq Stock Market LLC listing standards, as well as applicable SEC rules.

Indemnification of Directors and Officers

We have entered into indemnification agreements with each of our directors and officers, which require us to indemnify our directors and officers to the fullest extent permitted by Delaware law.

OTHER MATTERS

The Board of Directors does not know of any other matters to be submitted to the Annual Meeting. If any other matters properly come before the meeting, it is the intention of the persons named in the enclosed Proxy form to vote the shares they represent as the Board of Directors may recommend.

It is important that your shares of our Common Stock be represented at the Annual Meeting, regardless of the number of shares that you hold. You are, therefore, urged to vote by telephone or by using the Internet as instructed on the enclosed proxy card or execute and return, at your earliest convenience, the enclosed proxy card in the envelope that has also been provided.

THE BOARD OF DIRECTORS

Dated: March 31, 2021

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

IN RE CASSAVA SCIENCES, INC. SECURITIES LITIGATION	§	Master File No. 1:21-cv-00751-DAE
	§	CLASS ACTION
This Document Relates To:	§	
ALL ACTIONS.	§	

ORDER GRANTING MOTION TO DISMISS PLAINTIFFS' CONSOLIDATED COMPLAINT FOR VIOLATIONS OF THE FEDERAL SECURITIES LAWS

Before the Court is Defendants Cassava Sciences, Inc., Remi Barbier, Lindsay Burns, Nadav Friedmann, and Eric J. Schoen (collectively, "Defendants") Motion to Dismiss Plaintiffs' Consolidated Complaint for Violations of the Federal Securities Laws ("Motion"). Having considered the papers and arguments of counsel, the Court is of the opinion that Defendants' Motion should be GRANTED.

It is therefore ORDERED that Defendants' Motion to Dismiss Plaintiffs' Consolidated Complaint for Violations of the Federal Securities Laws is GRANTED.

SIGNED this _____ day of _____ 2022.

_____
The Honorable David Alan Ezra